CADOSYSTEMS

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WordBase™ Data User's Manual

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PREFACE

WordBase Data is a unique, all-purpose software package designed to run the gamut of business processing needs. Whether your particular needs are in the areas of billing and accounting, shipping, sales, inventory control, personnel, financial forecasting, all of these, or in countless others, WordBase Data is ready to provide you with powerful tools for your information processing needs.

WordBase Data has matured through several evolutions. You may already be familiar with its predecessors, JUST ASK and JUST ASK II. WordBase Data is referred to as JUST ASK III within this manual and is the third generation of this thoroughly work tested software.

This manual provides information pertinent to the user of WordBase Data. For instructional purposes, the manual can be used as a supplement to the WordBase Data Tutorial and WordBase Data Tutorial Guide.

WordBase Data is designed to be used with a word processing software package called WordBase Text. On the next page is a list of the documents and tutorial diskettes that make up the WordBase software system.

RELATED PUBLICATIONS/DISKETTES

Title	Number
20/20 Systems Operator's Manual	110209
C.A.T. III Operator's Manual	110431-1
CADO TIGER ATS 64/32 Operator's Manual	110484-2
WordBase Data Installation/Support Guide	110465
WordBase Data Tutorial Guide	110499
WordBase Data Tutorial I, Program Diskette	450389
WordBase Data Tutorial I, Data Diskette	450390
WordBase Data Tutorial II, Program Diskette	450391
WordBase Data Tutorial II, Data Diskette	450392
WordBase Data Tutorial III, Program Diskette	450393
WordBase Data Tutorial III, Data Diskette	450394
WordBase Text User's Manual	110434
WordBase Text Internationalization Guide	110515
WordBase Text Tutorial Guide	110433
WordBase Text Tutorial, Program Diskette	450361
WordBase Text Tutorial, Data Diskette	450362
Using WordBase Text on TIGER ATS 64/32	110607

REVISION HISTORY

This page lists any change page(s) which have been issued for insertion into this document and/or any complete revisions(s) of this document which have been published since the first issue.

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Each successive change or revision gets a new set of change bars on the affected pages.

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SECTION 1 INTRODUCTION

1.1 THE FUNCTION OF JUST ASK III

JUST ASK III is a unique piece of computer program software, which allows you an infinite variety of ways to record, manipulate, and report on all aspects of your business. Unlike other CADO software which is designed for a specific task (such as Accounts Receivable or Payroll), JUST ASK III is an all-purpose tool which assists you in "computerizing" any and all of your business activities.

In JUST ASK, the emphasis is on you!

Computers are extremely adept at keeping track of information and handling repetitive tasks like billing, inventory control, or shipping. Their drawback is that they must be told everything, what information to keep and what to do with the information once it is kept.

Until now, you had to hire a programmer to tell your computer what to do. No matter how simple or straightforward the job, the programmer had to be involved.

For these simple, everyday tasks, JUST ASK does away with the need for a programmer. JUST ASK allows you to use plain English sentences to instruct your computer to keep the information you want and to manipulate that information the way you want.

1.2 FEATURES OF JUST ASK III

As described in the preceding subsection, the function of JUST ASK III is to allow you to set up your own processing task without the aid of a programmer. JUST ASK provides a variety of features to help you do this, but they fall loosely into three categories: FORMS PROCESSING, DATA ENTRY, and REPORTING.

1.2.1 FORMS PROCESSING

FORMS PROCESSING procedures allow you to create an infinite variety of formats for the input and retrieval of data. There are two broad types of forms you will become familiar with, DATA ENTRY FORMS and REPORT FORMS.

DATA ENTRY FORMS provide an expedient method of specifying and restrictively defining the elements, or characteristics, of the information that is to be stored in JUST ASK files.

REPORT FORMS determine the actual look of reports generated with JUST ASK by presenting a host of reporting options such as automatically positioned REPORT HEADERS, PAGE HEADERS, BREAK HEADERS, BREAK TRAILERS, PAGE TRAILERS, and REPORT TRAILERS options. These enable you to precisely determine the formats of reports generated on pre-printed and NCR forms.

1.2.2 DATA ENTRY FORMS

DATA ENTRY is the actual capture and storing of information. The information is entered by typing on the keyboard and is stored on the computer's disk storage device.

1.2.3 REPORT FORMS

REPORTING is the presentation of the captured information. This presentation may be in the same format in which the information was entered or it may be dramatically different, such as a bar graph, or dunning letter. Any of these formats may constitute a report.

1.3 IMPORTANT CONCEPT DEFINITIONS

JUST ASK information storage is handled in the following way. FILES, RECORDS, and ELEMENTS are nested within FILE SETS, like Chinese boxes, as in Figure 1-1.

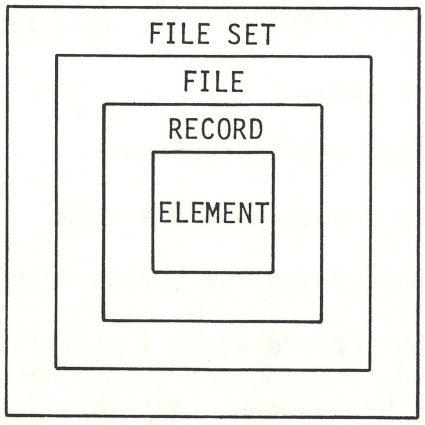

Figure 1-1 Files, Records, Elements within File Sets

Note the following definitions:

FILE SET	A group of files which share JUST ASK data.
FILE	A collection of information about a specific subject, such as personnel information or invoices.
RECORD	A particular instance of information within a file that is uniquely identifiable, such as Sam Smith's employee record or invoice number 302.
ELEMENT	One piece of information within a record, such as the social security number of an employee or the total amount of an invoice.

1.4 DEVELOPING A SAMPLE APPLICATION

A number of different examples are used in this manual. However, a database drawing upon personnel information has been used extensively to illustrate some of the data entry and reporting options available to you.

The manual will cover the following material:

- How to set up DATA ENTRY FORMS for use with personnel data.
- How to enter personnel data.
- How to display and print out information.
- How to create and edit a custom REPORT FORM.
- How to generate a report using the REPORT FORM created.

You will notice that some of the above instructions will be presented to you out of the logical sequence of events that you will ultimately use to perform JUST ASK procedures. This has been done for your ease of learning, leaving more complex activities for later on, after you are more familiar with the overall system.

The illustration on Page 1-5 shows how the FILE SET, FILE, RECORD, and ELEMENT hierarchy applies to the Personnel file.

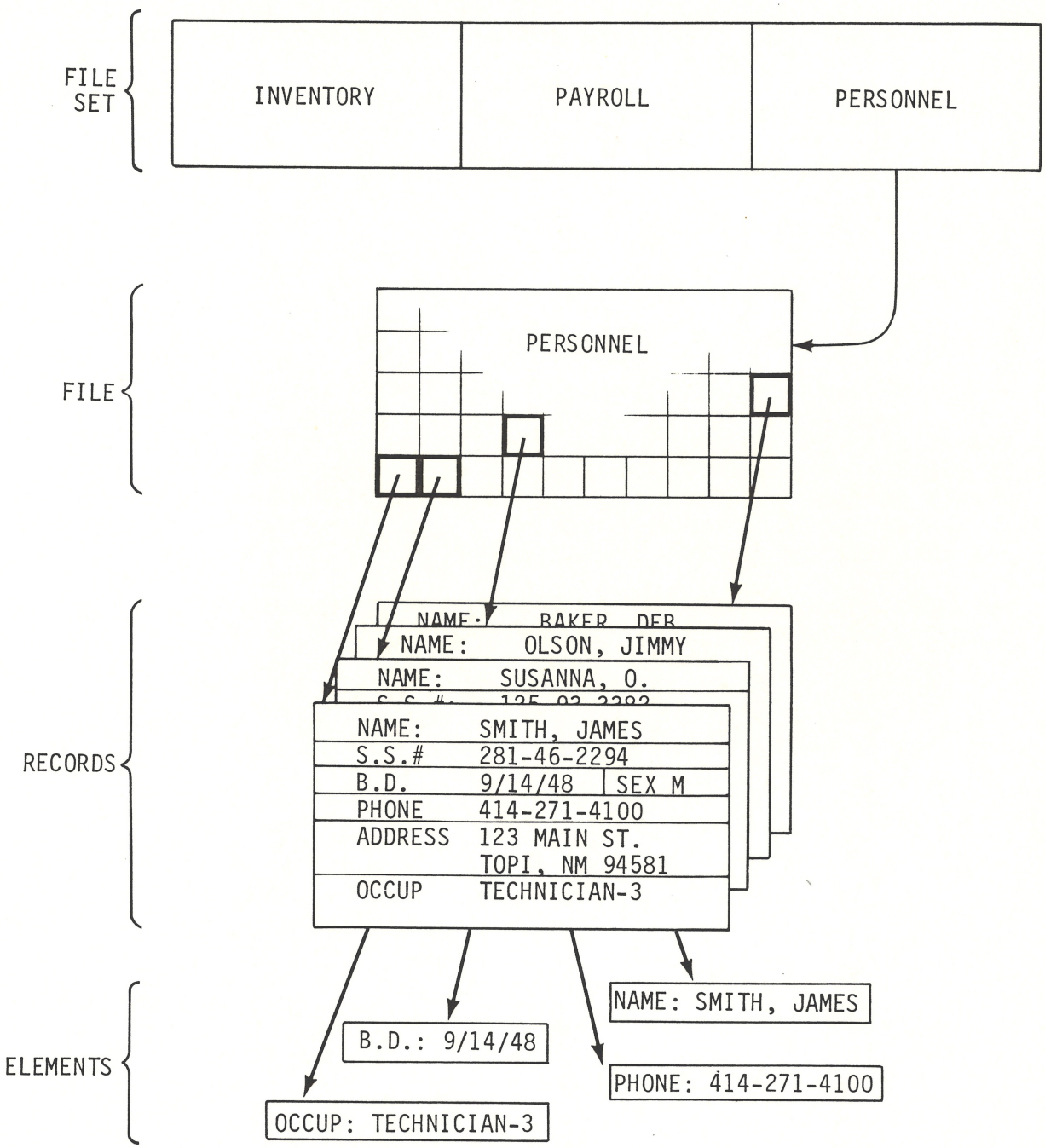

Figure 1-2 File Set, File, Record, Element Hierarchy

SECTION 2 REPORTING

This section describes how to produce "reports". A report can be a display or a printout. It may include all the records in a file, a particular group of records, or perhaps just one record. It can show all the elements in each record or just certain elements. Alternatively, a report may not show any individual records at all, but rather show summary information such as totals or averages for the records in the file.

There are three separate reporting fuctions on the JUST ASK menu: Make An Inquiry, Display A Report, and Print A Report. Use Make An Inquiry to display the contents of <u>individual</u> records, one at a time. Use Display A Report or Print A Report to display or print the contents of <u>multiple</u> records from a file.

A sample "Make An Inquiry" display is shown in Figure 2-1. Notice that it provides information about a single employee. Compare this with the sample "Print A Report" output shown in Figure 2-2. It provides information about a group of employees.

EMPLOYEE MASTER FORM (EMP\MAST)

EMP\NO	2338
SS\NO	345-98-1046
NAME	MANNING, JOSEPH
ADD1	3357 NO. EPSON DRIVE
ADD2	EL MONTE, CA.
ZIP	90461
PHONE	213-561-8742
SEX	M
MARITAL	M
DEPEND	3
DEPT\NO	014
HIREDATE	09/28/82
POSITION	SALES MANAGER
GRADE	06
PAYCODE	L
RATE	2500.00
VACATION	67
SICK	24

Figure 2-1 Sample "Make An Inquiry" Display

09/29/82 00:18:32 PAGE 001

LAST NAME, FIRST	GR	POSITION	P	RATE	VAC	SIC
BENSON, JANICE	05	SECRETARY	F	1600.00	48	25
BLOOM, DICK	03	SALES	R	1800.00	66	24
BORDON, JACK	05	SALES	V	2100.00	72	32
CAMDEN, RANDAL	02	JANITOR	W	1400.00	80	32
CHESLEY, LOUIS	02	CLERK	W	1400.00	74	8
CRAIG, PETER	01	CLERK	C	900.00	60	12
CROW, MAT	03	SALES	R	1700.00	68	24
ELLIOT, BILL	05	MANAGER	V	2100.00	80	20
FLANAGAN, ALBERT	03	CLERK	W	1500.00	72	16
FOOTE, DONNA	03	DRAFTSMAN	R	1700.00	21	24
JACKSON, ANDREW	01	CLERK	E	1100.00	40	20
JAMESON, MARY	02	TYPEST	W	1300.00	70	8
KASBACH, AMY	05	MANAGER	L	2400.00	43	20
KRAMER, JOHN	06	SALES	L	2400.00	47	8
MANNING, JOSEPH	06	SALES MANAGER	L	2500.00	67	24
MARTIN, CARRY	01	CLERK	C	800.00	70	24
MARTIN, FRANK	07	DISTRICT MANAGER	Z	3100.00	60	12
MILTON, GEORGE	05	SALES	L	2500.00	8	24
PAGE, KITTY	02	CLERK	F	1200.00	68	8
PAYTON, JACK	01	CLERK	E	1100.00	20	18
PETERS, DEBBIE	05	SALES	V	2200.00	60	16
REGAN, DENNIS	04	PRODUCTION	M	1800.00	68	16
RICHARDS, DON	05	SALES	V	2100.00	40	8
ROGERS, CARL	04	DRAFTSMAN	M	1800.00	63	16
VANBUREN, ROGER	03	PRODUCTION	R	1600.00	72	24
ZENITH, FRED	05	SALES	V	2200.00	74	16

Figure 2-2 Sample "Print A Report" Output

2.1 MAKE AN INQUIRY

This function allows you to display individual records, one at a time. After displaying a record, you can also print it. You cannot use Make An Inquiry to change a record or add a new one. That is, you can only "look" at a file, but not change it in any way.

2.1.1 ACCESSING MAKE AN INQUIRY

In order for Make An Inquiry to "look" at a file, you must know the name of a form associated with that file. If you cannot remember the form name, you can use a utility to list the forms that have been defined (see "List Forms" and "List Forms and Files" in Appendix B).

When you select Make An Inquiry from the main JUST ASK menu, the screen displays:

```
DATA ENTRY FORM NAME:
```

Enter the name of the form you want to use for the inquiry. If you enter a valid DATA ENTRY form name, the screen displays the corresponding form.* For example, the form shown on the top of the next page was printed after the user responded EMP\MAST to the DATA ENTRY FORM NAME: prompt.

---

* If JUST ASK cannot find the form you request, it displays the message: SORRY, THIS FORM HAS NOT BEEN DEFINED. If this happens, press RETURN. Then you can try another form name or press CTRL + ESC to return to the menu.

A sample display is shown below:

```
SELECT INQUIRY FUNCTION

        EMPLOYEE MASTER FORM (EMP\MAST)

EMP\NO      ^^^^
SS\NO       ^^^^^^^^^^^
NAME        ^^^^^^^^^^^^^^^^^^^^^^^^^^^^
ADD 1       ^^^^^^^^^^^^^^^^^^^^^^^^^^^^
ADD 2       ^^^^^^^^^^^^^^^^^^^^^^^^^^^^
ZIP         ^^^^^
PHONE       ^^^^^^^^^^
SEX         ^
MARITAL     ^
DEPEND      ^^
DEPT\NO     ^^^
HIREDATE    ^^^^^^^^
POSITION    ^^^^^^^^^^^^^^^^^
GRADE       ^^
PAYCODE     ^
RATE        ^^^^^^^^^
VACATION    ^^^
SICK        ^^^
```

At this point, the form is "blank"; that is, the data elements are displayed as strings of carets (^). JUST ASK will insert data into these elements as you call up individual records from the file.

Notice that the prompt SELECT INQUIRY FUNCTION is displayed above the form. This prompt is explained in the next subsection.

2.1.2 SELECT FUNCTION MODE

After you access Make An Inquiry and call up a DATA ENTRY form, you are in SELECT FUNCTION mode. This might also be called "command key" mode. By displaying the SELECT INQUIRY FUNCTION prompt, JUST ASK is telling you: "Please indicate what you want to do next by pressing one of the available command keys."

Many of the JUST ASK commands are similar to those used by the CADO Word Processor. Table 2-1 lists all the commands available with Make An Inquiry. These commands are explained in the following subsections.

Table 2-1 Commands Available with Make An Inquiry

	KEY	FUNCTION
CURSOR MOVEMENT COMMANDS	4	LEFT
	6	RIGHT
	8	UP
	2	DOWN
	5 or H	HOME
	7	LINE START
	9	LINE END
	B	COLUMN
	L	LINE
	W	WHERE
OTHER COMMANDS	G	GET RECORD
	C	CLEAR DATA
	P	PRINT FUNCTIONS
	R	SELECTIVE RECORD RETRIEVAL
	U	DUPLICATE KEY RETRIEVAL
	CAN	CANCEL FORM
	?	HELP
	CTRL+ESC	RETURN TO MENU

2.1.3 HELP

In addition to Make An Inquiry, several other selections on the JUST ASK menu have a SELECT FUNCTION mode. However, each SELECT FUNCTION mode has its own set of available commands. Some commands, such as the cursor movement commands, are always available in SELECT FUNCTION; others are unique to a particular selection from the JUST ASK menu.

To display a list of the commands available in SELECT FUNCTION mode, give the HELP command by pressing the "?" key. This interrupts the current function temporarily and displays a "HELP screen" similar to the one below:

```
AVAILABLE FUNCTIONS

   KEY - FUNCTION                    KEY - FUNCTION
    4    LEFT                         G    GET
    6    RIGHT                        C    CLEAR
    8    UP                           P    PRINT FUNCTIONS
    2    DOWN                         R    SELECTIVE RETRIEVAL
    5    HOME                         U    DUPLICATE KEY RETRIEVAL
    H    HOME
    7    LINE START
    9    LINE END
    B    COLUMN
    L    LINE
    W    WHERE
```

The HELP screen for each mode lists the functions available in that mode, along with their associated keys. The listing is always in two columns, with common JUST ASK functions on the left and functions unique to the current mode on the right.

To leave a HELP screen and get back to the previous screen, just press RETURN (or CAN). The HELP screen shown above is for the SELECT INQUIRY FUNCTION mode.

2.1.4 GET

Suppose you are in SELECT INQUIRY FUNCTION mode with a DATA ENTRY form displayed on the screen. You can then use the GET command to call up records from a file.

To give this command, press G. The message GET displays, and the cursor moves to the Key Element on the form. The Key Element is the one used to uniquely identify and therefore access records in a file. For example, inventory items are usually called up by part number, employee records by employee number, and so on.*

A sample form is shown below:

```
                          PARTS FILE

PART NUMBER: ^^^^^^^^
DESCRIPTION: ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
PRICE:       ^^^^^^^^^^

                          INVENTORY

   ON HAND    COMMITTED    ON ORDER     MINIMUM     MAXIMUM
^^^^^^^^^^^  ^^^^^^^^^^^  ^^^^^^^^^^^  ^^^^^^^^^^^  ^^^^^^^^^^^

                        SALES SUMMARY

          NET WORTH     SOLD M-T-D     SOLD Y-T-D
        ^^^^^^^^^^^^^  ^^^^^^^^^^^  ^^^^^^^^^^^
```

* Technical note: JUST ASK can access records either by key or by record number.

When the cursor is positioned on the DATA ENTRY form, enter the information which identifies the record you want to call onto the screen and press RETURN. JUST ASK searches the file for this record.

If the required record is not on file, JUST ASK displays:

```
THIS RECORD DOES NOT EXIST
```

and clears the data elements. If this happens, press RETURN to get back to SELECT INQUIRY FUNCTION mode.

If JUST ASK finds the record, it fills in the various element areas on the form, as shown on the sample form below where the part, identified by its key element as 1, was requested and retrieved:

```
SELECT INQUIRY FUNCTION

                         PARTS FILE

PART NUMBER: 1

DESCRIPTION: #2 LEAD PENCIL

PRICE:              .15

                         INVENTORY

     ON HAND    COMMITTED    ON ORDER     MINIMUM     MAXIMUM
        234            0         500         100        1000

                       SALES SUMMARY

            NET WORTH    SOLD M-T-D     SOLD Y-T-D
                35.10           350           4325

CORRECT? (Y/N) ^
```

If you want to see another record, use the GET command again. When the cursor positions at the key element, enter the desired key, and press RETURN. JUST ASK retrieves and displays this record, replacing the data displayed for the previous record.

2.1.5 CURSOR MOVEMENT AND SCROLLING

While the screen is only 80 characters across by 24 lines down, a form can be as large as 240 characters by 240 lines. The screen can be thought of as an 80-character by 20-line "window" on a form (see Figure 2-3). If you are working with a form larger than 80 characters by 20 lines, you can cause the screen to "scroll" right or left, up or down until the edge of the form is reached, by giving any command which moves the cursor beyond the edges of the window.

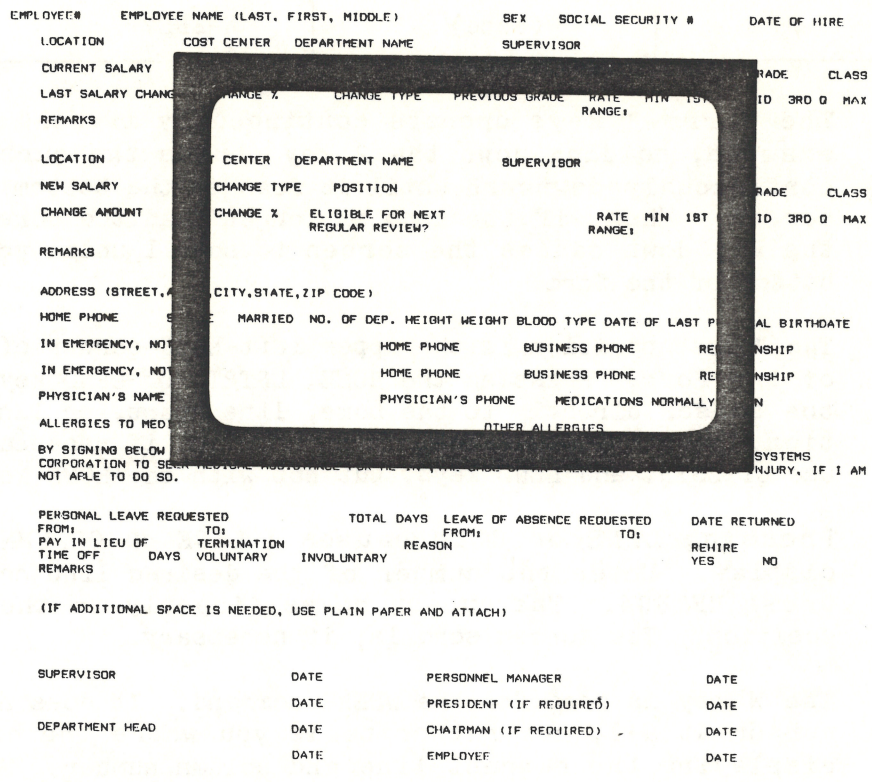

Figure 2-3 Screen as 80-Character by 20-Line Window

The cursor movement commands are listed in Table 2-2.

Table 2-2 Cursor Movement Commands

KEY	LABEL ON KEY	MOVES CURSOR
8		UP
2		DOWN
4	<--	LEFT
6	-->	RIGHT
7	LSTRT	To beginning of line
9	LEND	To end of line
5 or H	HOME	To "home" position
L	LINE	To line specified
B	COLM	To column specified
W	(None)	WHERE?

The "arrow" keys operate continuously if held down. For example, holding down the 2 key causes the cursor to move continuously downward until it reaches the bottom line on the screen. Then, if the form is longer than the screen, holding the key down causes the screen to scroll until you reach the bottom of the form.

The "home" position is the upper left-hand corner of the window of the form. Pressing the HOME, LSTRT, or LEND key once moves the cursor directly to the home, line start, or line end position, respectively. The screen scrolls, if necessary, through use of LSTRT and LEND keys, but not with the HOME key.

Pressing LINE or COLM causes a LINE or COLUMN prompt to display. Enter the number of the desired line or column and press RETURN. The cursor moves directly to the indicated position. The screen scrolls, if necessary.

The W key is used for the WHERE command. It does not move the cursor at all, but rather tells you where the cursor is by displaying the current line and column number. For example, JUST ASK might indicate the current position by displaying LINE, 42 COLUMN, 60.

2.1.6 PRINTING

After a record is displayed, you may want to print it. Printing is done through a special SELECT PRINT FUNCTION mode.

Suppose you are in SELECT INQUIRY FUNCTION mode with a DATA ENTRY form displayed on the screen. If you press P, the screen displays:

```
SELECT PRINT FUNCTION
```

The HELP screen for this mode is shown below.

```
AVAILABLE FUNCTIONS

 KEY - FUNCTION        KEY - FUNCTION
  4    LEFT             A    ALIGNMENT
  6    RIGHT            O    OVERLAY
  8    UP               P    PRINT
  2    DOWN             F    FILL
  5    HOME             Z    CHANGE DEVICE
  H    HOME             Q    LIST ENTRIES
  7    LINE START
  9    LINE END
  B    COLUMN
  L    LINE
  W    WHERE
```

Figure 2-4 HELP Screen for SELECT PRINT FUNCTION

As you can see, there are six commands at the right, unique to this mode. These are summarized in the table and paragraphs below.

Table 2-3 Print Commands

KEY	NAME	(FUNCTIONS)
A	ALIGNMENT	(Print Alignment Pattern)
O	OVERLAY	(Overlay Grid)
P	PRINT	(Print Entire Form)
F	FILL	(Print Data Only)
Z	CHANGE DEVICE	(Change Device Number and Characteristics)
Q	LIST ENTRIES	(List Form Entry Positions and Characteristics)

Upon completion of any of these printing operations, the SELECT PRINT FUNCTION prompt displays again. The form continues to display on the screen. You can select another print function, if desired. Otherwise, press CAN to return to SELECT INQUIRY FUNCTION mode.

2.1.6.1 Print

The PRINT command prints an entire DATA ENTRY form. First, make sure that all printer controls are set correctly and that paper has been loaded and aligned.

In SELECT PRINT FUNCTION mode, press the P key. The screen displays PRINT as the DATA ENTRY form is being printed. You cannot use the keyboard until the print operation is completed.

2.1.6.2 Fill

A DATA ENTRY form consists of **text** and **data elements.** When you access Make An Inquiry and call up a DATA ENTRY form, the data areas are displayed as strings of carets (^). **Elements** are the variable information which JUST ASK fills in when you GET a record. The fixed parts of the form are called **text.**

The FILL command prints only the element information on a DATA ENTRY form, not the text. This command is used mainly with preprinted forms. For example, Figure 2-5 shows a preprinted form, while Figure 2-6 shows a corresponding form on the display screen. After loading the preprinted form in the printer, you would use the FILL command to produce the document shown in Figure 2-7.

Employee No.	Last Name	First Name	Social Security No.		
Street Number		Phone	Date Hired		
City	State	Zip Code	Sex	Marital Status	Dependents
Department No.	Position		Grade	Pay Code	
Vaccrued Vacation	Sick Leave	Salary Rate			

Figure 2-5 Sample Preprinted Form (TEXT)

```
EMP\NO        NAME                                  SS\NO
^^^^          ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^  ^^^^^^^^^^^^

ADD1                                  PHONE                 HIREDATE
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^   ^^^^^^^^^^^           ^^^^^^^^

ADD2                                  ZIP       SEX       MARITAL     DEPEND
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^   ^^^^^     ^         ^           ^^

DEPT\NO          POSITION                       GRADE       PAYCODE
^^^              ^^^^^^^^^^^^^^^^^^^^^^^^^^^^   ^^          ^

VACATION      SICK              RATE
  ^^^         ^^^               ^^^^^^^^^
```

Figure 2-6 Sample Make An Inquiry Screen

Employee No.	Last Name	First Name	Social Security No.		
3746	JOHNSON.	PETER	660-75-4198		
Street Number		Phone	Date Hired		
73747 BANDINI AVE.		213-948-7448	03/17/79		
City	State	Zip Code	Sex	Marital Status	Dependents
REDONDO BEACH,	CA.	90537	M	M	02
Department No.	Position		Grade	Pay Code	
014	SALES MANAGER		07	F	
Vaccrued Vacation	Sick Leave	Salary Rate			
051	024	3,000.00			

Figure 2-7 Form Produced Using FILL

To use the FILL command, you must be in SELECT PRINT FUNCTION mode. Press F. The message FILL displays while the data is printed, and you cannot use the keyboard until printing has completed.

2.1.6.3 Alignment

The ALIGNMENT print function causes an alignment pattern to be printed out on the top line of a pre-printed form. Typically, this function is used prior to using FILL to make sure a preprinted form is correctly aligned.

To use the ALIGNMENT command, you must be in SELECT PRINT FUNCTION mode. Make sure the printer is loaded and correctly adjusted. Press A. The message ALIGNMENT displays while the alignment pattern is printed. Although your alignment pattern may be different, the standard pattern is shown below:

```
ALIGN====================ALIGN=======================ALIGN
```

If the alignment pattern does not line up with the first line of your form, you can adjust your forms manually and repeat the ALIGNMENT function as necessary.

NOTE: The printer may move the paper to the next form before printing. You can change this using the CHANGE DEVICE command, as described in the next paragraph.

2.1.6.4 Change Device

This command does not cause any printing to occur. Instead, it allows you to inspect and, if desired, change various settings that affect the printing of the currently displayed form. Each form has associated settings for device number, form feed, lines per inch, and characters per inch. The function of each setting is described below:

- The **device number** indicates which printer to use (some systems have more than one printer), the form width, form length, and so on.

- The **form feed** setting is either YES or NO; it indicates whether the printer should advance to the top of the next page before printing this form.

- The **lines per inch** (LPI) and **characters per inch** (CPI) settings indicate the correct printer settings for this form. Please note that the operator must manually set the printer in accordance with these values.

In general, these four settings are entered when the form is created and do not need to be changed. However, you may want to inspect these settings, especially the lines/characters per inch settings, because these tell you how to set the printer controls.

To use the CHANGE DEVICE command, proceed as follows:

1. You must be in SELECT PRINT FUNCTION mode. Press Z. The screen displays the DEVICE NUMBER prompt followed by the current device number, as in this sample display:

```
DEVICE NUMBER? (1-99) 1 []
```

   To change the JUST ASK device number associated with this form, backspace over the current number, enter the new number, and press RETURN. Otherwise, you can accept the current entry by pressing RETURN*.

2. The screen then displays the current FORM FEED setting, as in this sample display:

```
FORM FEED? Y []
```

   To change this setting, press DEL to delete the current setting, then enter the new setting and press RETURN. Otherwise, you can accept the current setting by pressing RETURN.

   With a "Y" setting, the printer will form feed one page before printing this form; with an "N" setting, it will begin printing on the current page.

3. Next, the screen displays the LINES PER INCH setting of the current form, and, after you press RETURN, the CHARACTERS PER INCH setting.

   These settings are not intended to be changed. They are displayed for informational purposes only, to enable you to check your printer settings. You must set the printer manually in accordance with these settings before printing this form. Pressing RETURN again completes the CHANGE DEVICE command and returns you to SELECT PRINT FUNCTION mode.

---

*For more information on device numbers, refer to "Describe A Device" in Appendix B.

2.1.6.5 Overlay

Although the OVERLAY print function is available, it should not usually be needed while using Make An Inquiry. OVERLAY causes a grid containing line and column numbers to be printed. This is useful when creating a form on the screen that duplicates an existing preprinted form. (See Section 6 of this manual for details.)

You must be in SELECT PRINT FUNCTION mode to use OVERLAY. Make sure the printer is loaded and correctly adjusted. Press O. The screen displays OVERLAY as the grid is printed. You cannot use the keyboard until printing has completed.

2.1.6.6 List Entries

With this function, you can produce a two-part listing describing the entries on a form. The first part contains the entry numbers associated with each line number of the form, as shown in Figure 2-8.

```
DATA ENTRY FORM NAME: INVOICE
LINE #    ENTRY NUMBER

001
002
003
004       001   003   004
005       005
006       002   006   007
007       008
008
009
010
011       009   010   011   012   013
012       014   015   016   017   018
013
014
015       019
016       020
017
018
019       021
```

Figure 2-8 Sample LIST ENTRIES Printout--Part 1

The second part, shown in Figure 2-9, gives detailed information about each entry, including entry type, element name, editability as defined with CHANGE EDITABILITY, and any conditions set up with DATA ENTRY RULES.

```
ENTRY NUMBER   TYPE                  NAME        EDITABILITY

001            KEY                   SO          EDITABLE

003            SAVED ELEMENT         F\NAME      EDITABLE

004            SAVED ELEMENT         L\NAME      EDITABLE

005            SAVED ELEMENT         STREET      EDITABLE

002            SAVED ELEMENT         CUST\NO     EDITABLE
          UNCONDITIONALLY
                         VALIDATE FILE #001
                         DISPLAY ENTRY # 003
                         DISPLAY ENTRY # 004
                         DISPLAY ENTRY # 005
                         DISPLAY ENTRY # 006
                         DISPLAY ENTRY # 007
                         DISPLAY ENTRY # 008
                         SKIP TO ENTRY # 009

006            SAVED ELEMENT         CITY        EDITABLE

007            SAVED ELEMENT         STATE       EDITABLE

008            SAVED ELEMENT         ZIPCODE     EDITABLE

009            SAVED ELEMENT         PART\NO     EDITABLE
          UNCONDITIONALLY
                         VALIDATE FILE #002
                         DISPLAY ENTRY # 010
                         DISPLAY ENTRY # 012
                         SKIP TO ENTRY # 011

010            SAVED ELEMENT         DESC        EDITABLE

011            SAVED ELEMENT         QUANTITY    EDITABLE
          UNCONDITIONALLY
                         DISPLAY ENTRY # 013
                         SKIP TO ENTRY # 014

012            SAVED ELEMENT         PRICE       EDITABLE

013            SAVED ELEMENT         EXT         EDITABLE

014            SAVED ELEMENT         ALT\NO      EDITABLE
          UNCONDITIONALLY
                         VALIDATE FILE #002
                         DISPLAY ENTRY # 015
                         DISPLAY ENTRY # 017
                         SKIP TO ENTRY # 016

015            SAVED ELEMENT         ALT\DESC    EDITABLE

016            SAVED ELEMENT         ALT\QTY     EDITABLE
          UNCONDITIONALLY
                         DISPLAY ENTRY # 018


ENTRY NUMBER   TYPE                  NAME        EDITABILITY

                         DISPLAY ENTRY # 019
                         DISPLAY ENTRY # 020
                         DISPLAY ENTRY # 021
                         SKIP TO ENTRY # 022

017            SAVED ELEMENT         ALT\PRIC    EDITABLE

018            SAVED ELEMENT         ALT\EXT     EDITABLE

019            SAVED ELEMENT         SUBTOTAL    EDITABLE

020            SAVED ELEMENT         TAX         EDITABLE

021            SAVED ELEMENT         G\TOTAL     EDITABLE

END
```

Figure 2-9 Sample LIST ENTRIES Printout--Part 2

To use LIST ENTRIES proceed as follows:

1. Be sure your printer is online and loaded with paper.

2. In SELECT PRINT FUNCTION, with your form displayed on the screen, press Q.

   Immediately the LIST ENTRIES message displays, and the two listings are printed consecutively. You cannot use the keyboard until printing has completed.

2.1.7 CLEAR

After a record is displayed, you may want to clear it from the screen. However, it is not required that you clear one record before GETting another one.

In SELECT INQUIRY FUNCTION mode, press C. The form remains on the screen, but all the elements are "cleared", that is, replaced by strings of carets (^). Note that this does not delete the record from the file; the record can be recalled to the screen at any time with GET.

2.1.8 CANCEL and ESCAPE

CAN and CTRL + ESC* are "control" commands which transfer you from one mode to another. The effect of CAN or CTRL + ESC depends upon the situation in which it is used.

In general, however, think of CAN as the command which terminates the current mode and returns you to the previous mode, and think of CTRL + ESC as the command used to return directly (or as directly as possible) to the main menu.

To illustrate the effects of CAN and CTRL + ESC, suppose you have followed these steps:

1) You selected Make An Inquiry from the main JUST ASK menu, so that the DATA ENTRY FORM NAME: prompt appeared.

2) You entered a form name, so that the form displayed together with the SELECT INQUIRY FUNCTION prompt.

3) You pressed P, so that the SELECT PRINT FUNCTION prompt appeared.

---

* To give the CTRL + ESC command, press down CTRL and <u>keep holding it down</u> like a SHIFT key. Then, while holding down CTRL, press ESC once.

If you press CAN at this point, you return to SELECT INQUIRY FUNCTION mode, thus reversing Step 3. If you then press CAN again, you return to the DATA ENTRY FORM NAME: prompt, reversing Step 2.* If you press CAN again, nothing happens, the DATA ENTRY FORM NAME prompt displays again. In summary, CAN transfers you from the current mode to the previous mode--back to FORM NAME.

On the other hand, suppose you have followed the three steps above and, at that point, decide that you want to return to the main menu. Pressing CTRL + ESC returns you directly to the main menu.**

Within the Make An Inquiry function, you need CAN mainly in two situations:

1) After completing a print function, use CAN to return from SELECT PRINT FUNCTION to SELECT INQUIRY FUNCTION mode.

2) After completing all required inquiries with the current form, use CAN to clear this form and return from SELECT INQUIRY FUNCTION to FORM NAME, so you can call up another form.

On the other hand, you only need CTRL + ESC after completing all Make An Inquiry tasks to return to the main menu.

---

* This clears the displayed form from the screen. To prevent you from doing this accidentally, JUST ASK displays the prompt CANCEL? (Y/N) before clearing the form. Enter Y to clear the form, or N to return to SELECT INQUIRY FUNCTION mode, and press RETURN.

** To prevent you from accidentally returning to the main menu, JUST ASK displays the prompt ESCAPE? (Y/N). Enter Y to return to the main menu, or N to return to SELECT INQUIRY FUNCTION mode, and press RETURN.

2.1.9 TYPICAL MAKE AN INQUIRY SESSION

Now that you know most of the commands available in Make An Inquiry, it should be useful to read through the following steps, which illustrate a typical Make An Inquiry session.

1. Select Make An Inquiry from the main JUST ASK menu. The screen displays:

   ```
   DATA ENTRY FORM NAME:
   ```

   Enter the name of the form you want to use for the inquiry.

2. If you enter a valid form name, the screen displays the corresponding form.* Above the form, the screen displays:

   ```
   SELECT INQUIRY FUNCTION
   ```

   Whenever this message displays, you can respond with a command. You can display a list of the available commands using HELP ("?" key).

3. At this point, you may want to GET a particular record. Press GET and enter the key of the desired record. If that record exists, it is displayed. Otherwise, the screen displays THIS RECORD DOES NOT EXIST and clears the entries.

4. If the DATA ENTRY form you are using is larger than the display screen, you may want to use the cursor movement commands to "scroll" so you can see the entire record.

---

* If JUST ASK cannot find the DATA ENTRY form you request, it displays the message: SORRY, THIS FORM HAS NOT BEEN DEFINED. If this happens, press RETURN. Then you can try another form name or press CTRL + ESC to return to the menu.

5. If you want to print the record, press P. The SELECT PRINT FUNCTION prompt is displayed. This mode offers several options:

KEY	FUNCTION
A	Print alignment characters
O	Overlay Grid
P	Print entire form
F	Print data only
Z	Inspect/change printing specifications
Q	List Entries

To return from SELECT PRINT FUNCTION to SELECT INQUIRY FUNCTION, press CAN.

6. If you want to display another record, press GET again. Or if you want to use another form, press CAN. The screen displays:

```
CANCEL? (Y/N)
```

Answer Y to clear the current form from the screen. The screen then displays:

```
DATA ENTRY FORM NAME:
```

Enter the name of the next DATA ENTRY form you want to use.

7. When you are ready to return to the main menu, press CTRL + ESC and answer Y to the ESCAPE? (Y/N) prompt.

2.1.10 ADVANCED INQUIRY METHODS

This subsection describes the two remaining inquiry commands, SELECTIVE RETRIEVAL (R key) and DUPLICATE KEY RETRIEVAL (U key). These commands provide three optional retrieval methods:

SELECTIVE RETRIEVAL	Allows you to set up a condition, so that only records meeting the condition will be retrieved with the GET command.
DUPLICATE KEY RETRIEVAL	Allows you to retrieve multiple records having the same key.
SEQUENTIAL RETRIEVAL	Allows you to retrieve records sequentially, without entering a new key.

2.1.10.1 Selective Retrieval

With this feature, you can set up a condition under which only certain records--those meeting the condition--will be selected with the GET command. Records which do not "qualify" will be ignored.

The condition is specified by constructing an IF phrase. (These phrases are fully described in Section 3.)

For example, when reviewing data in your inventory file, you might want to look at only those items priced over $50.00. You would proceed as follows:

1. In SELECT INQUIRY FUNCTION, with your form displayed on screen, press R. The screen displays:

```
SELECTIVE RETRIEVAL
CONDITION: IF
```

2. Enter the desired condition and press RETURN. In the example above, you would make the following entry.

```
CONDITION: IF PRICE > 50.00
```

The condition you enter remains in effect until you either change it or terminate inquiries on the current form.

If you then attempt to retrieve a record which does not meet the condition, JUST ASK will respond just as it does when you attempt to retrieve a nonexistent record. That is, the screen displays the message:

```
THIS RECORD DOES NOT EXIST
```

and clears (replaces with carets) the data areas on the form, returning you to SELECT INQUIRY FUNCTION.

NOTE: Subsection 2.1.10.3 describes how you can retrieve qualified records in sequence--that is, in their physical order on the disk--by repeatedly pressing GET, then RETURN.

2.1.10.2 Duplicate Key Retrieval

Normally, there is only one record in a file with a given key. Some files, however, allow multiple records to have the same key. For this reason, a DUPLICATE KEY option is available.

Using the GET command, you can sequentially retrieve records having the same key, if you select this option. If your file contains records with duplicate keys and you do not select this option, JUST ASK retrieves only the first record found under a specified key.

To select the duplicate key, you should be in SELECT INQUIRY FUNCTION with your form displayed.

Press U. The screen displays:

```
DUPLICATE KEY RETRIEVAL []
```

followed by the default option, NO DUPLICATE KEYS. Bypass this option by pressing the spacebar.

Next, the screen displays:

```
DUPLICATE KEY PERMITTED []
```

Select this option by pressing RETURN.

Duplicate key retrieval remains in effect until you either change it (by selecting NO DUPLICATE KEYS) or terminate inquiries on the current form.

Here is an example of duplicate key retrieval. Suppose an inventory file keeps track of the serial numbers of individual items. The file might include the following records with duplicate keys:

PART NO (KEY)	DESCRIPTION	SERIAL NO.
1205	35 mm Camera, Model 1000	50020A
1205	35 mm Camera, Model 1000	50017A
1205	35 mm Camera, Model 1000	50018A

NOTE: When in duplicate key retrieval, the key is not automatically blanked, so you must delete this key element before you enter a new one.

Suppose also that the records happen to occur in this order, physically, on the disk. If you repeatedly GET part number 1205 without using the duplicate key option (NO DUPLICATE KEYS), you will continue to get only the first record (serial number 50020A).

However, suppose you repeatedly GET part number 1205 with the DUPLICATE KEY PERMITTED option in effect. The first GET retrieves the first record (serial number 50020A), the next GET retrieves the second record (50017A), and the third GET retrieves the third record (50018A).

Since there are no more records with key 1205, a fourth GET part number 1205 causes the THIS RECORD DOES NOT EXIST message to display. This completes the cycle, so that a fifth GET would start again with the first record. Note also that if the sequence of repeated GET's is interrupted by a GET of a different key, the cycle starts over.

NOTE: The next subsection describes how you can retrieve records in sequence--that is, in their physical order on the disk--by repeatedly pressing GET, then RETURN.

2.1.10.3 Sequential Retrieval

You can use the DUPLICATE KEY PERMITTED option to retrieve records sequentially--that is, in their physical order on disk. When this option is in effect, giving the GET command with a "null" key element retrieves the "next" record from the file. A null key is an "empty" key; to enter a null key, delete any existing key entry, then press RETURN.

For example, suppose the DUPLICATE KEY PERMITTED option is in effect, and the last record displayed was the 34th record in the file. If you press GET, delete the existing key, and press RETURN, JUST ASK will retrieve the 35th record from the file. You can continue this process until you reach the end of the file. At that point, the screen displays:

```
THIS RECORD DOES NOT EXIST
```

Then, if you GET a null key element again, JUST ASK restarts sequential retrieval from the first record in the file.

This feature can be used in conjunction with the SELECTIVE RETRIEVAL option. Suppose you want to look at all the inventory items with a price of 10.00. Set up a SELECTIVE RETRIEVAL condition using IF PRICE = 10.00, and make sure the DUPLICATE KEY PERMITTED option is in effect. Then, by repeatedly pressing GET-DELETE-RETURN, you will eventually retrieve all the qualified records.

2.2 DISPLAY/PRINT A REPORT

Display A Report and Print A Report are separate selections on the main JUST ASK menu. However, they produce exactly the same types of report, the only difference being whether the report is displayed on the screen or printed.

2.2.1 OVERVIEW

Using Display or Print A Report is quite simple. You enter an English-like sentence that tells JUST ASK what type of information you want. Then JUST ASK "reads" your sentence and produces the desired report.

For example, you might enter the sentence "LIST THE EMPLOYEE FILE FOR NAME AND PHONE". JUST ASK would then produce a report listing the name and phone number of each employee.

The English-like sentences you enter are called JUST ASK sentences. Section 3 describes in detail how to compose a sentence that will produce the type of report you want.

The Print/Display A Report functions have special features that allow you to save and/or edit a JUST ASK sentence. When you enter a sentence, you can name it and save it for future use. Then, if you want to use that sentence again, you need only enter the name you used for saving it; you do not have to retype the sentence.

The name you use to save a sentence is called a "sentence name". When you recall a sentence by entering the sentence name, JUST ASK allows you to edit (change) the sentence. After editing the sentence, you can save the new version using the same sentence name or a new name. A utility, "List the Sentences", is available that lists all the sentences that have been saved (see Appendix B).

In order to print a report, you have to enter a JUST ASK "device number". A JUST ASK "device" is actually a complete set of output specifications. The device number you enter tells JUST ASK which printer to use (some systems have more than one printer), what size paper is being used, whether to print continuously or stop at the end of each page, and so on.

It is likely that the device numbers you need have already been set up for you, and you may have been given a list of device numbers by your supervisor or CADO representative. However, you can change existing device definitions or add new ones using the Describe A Device utility. The procedure for this utility is described in Appendix B.

2.2.2 PROCEDURE FOR PRINT/DISPLAY A REPORT

The operation of Print/Display A Report is a matter of responding to a series of self-explanatory prompts. The prompts that appear as you proceed vary according to your responses to earlier prompts.

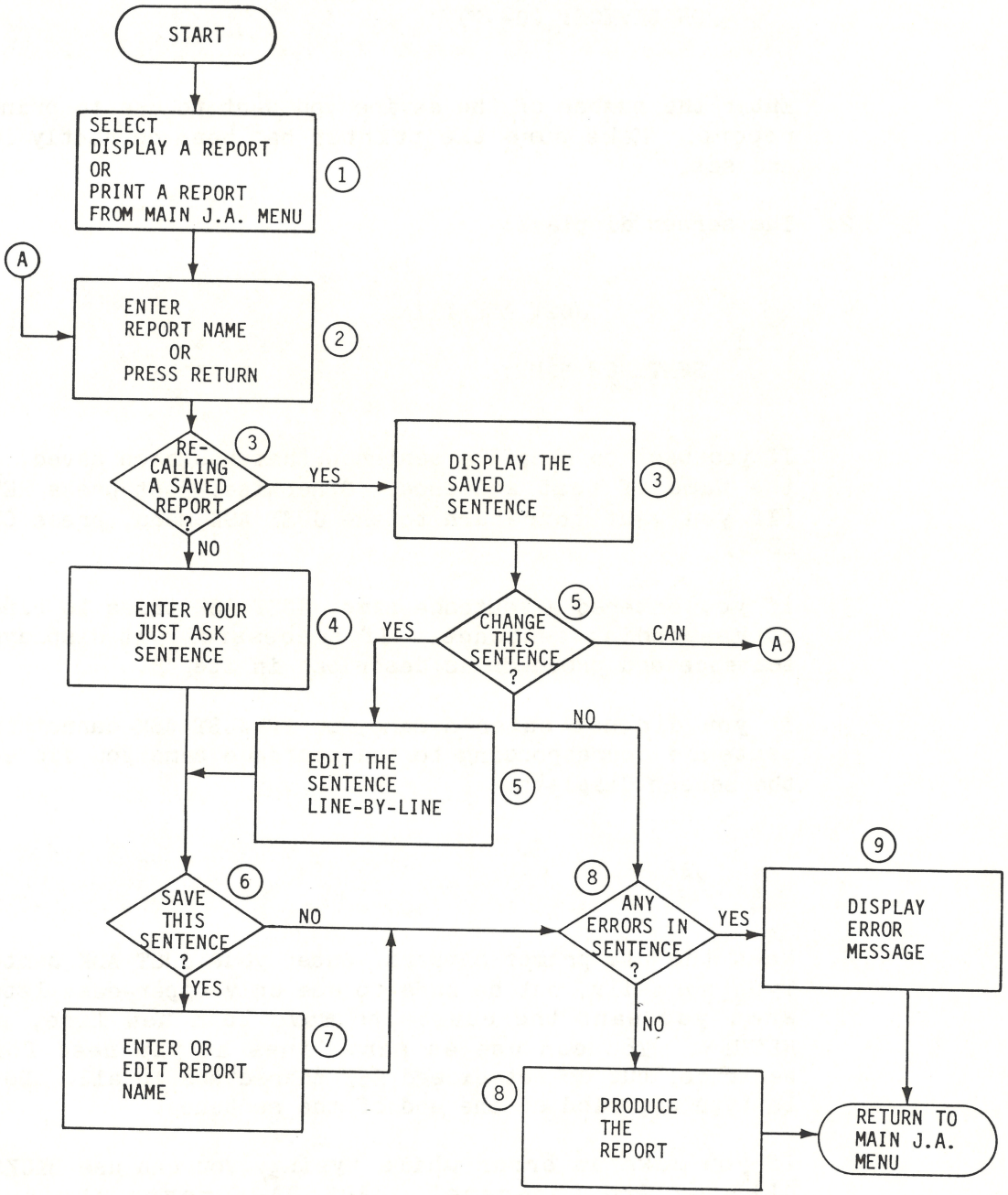

Figure 2-10 Flowchart of Print/Display A Report

The flowchart in Figure 2-10 illustrates the overall process. The numbers on the flowchart in Figure 2-10 correspond to the following steps.

1. Select Print A Report or Display A Report from the main JUST ASK menu. If you select Print A Report, the screen displays:

```
ON DEVICE: (0-99)
```

   Enter the number of the device you want to use to print the report. Make sure the printer has been correctly loaded and set.

2. The screen displays:

```
          JUST ASK III

SENTENCE NAME:
```

   If you want to recall a sentence that has been saved, enter the name of that sentence. Otherwise, just press RETURN. (If you want to return to the JUST ASK menu, press CTRL + ESC.)

3. If you entered a sentence name, JUST ASK tries to find the corresponding sentence. If successful, it displays the sentence and proceeds as described in Step 5.

   If you did not enter a name, or if JUST ASK cannot find a sentence corresponding to the sentence name you did enter, the screen displays:

```
JA:
```

4. When the JA: prompt appears, enter your JUST ASK sentence. Type normally, but be sure to use only upper-case letters. When you want the cursor to move to a new line, press RETURN. You can use as many lines as you need for the sentence, but do not exceed 255 characters in all. Be sure to type a period at the end of the sentence.

   If you make an error while typing, you can use BACKSPACE DEL, or CAN to erase. BACKSPACE moves the cursor backwards, one character at a time, erasing as the cursor moves back. DEL erases an entire line.

Note that DEL and BACKSPACE can only erase characters on the current line. If you want to make changes above the current line, press CAN. This erases the entire sentence, and you can start over.

After typing the period at the end of the sentence, press RETURN. Then proceed as described in Step 6.

5. If you enter a sentence name, and if JUST ASK finds the corresponding sentence, that sentence is displayed on the screen. Below the sentence, the screen displays:

```
CHANGE THIS SENTENCE? (YES/NO/DEL)
```

If you want to delete this sentence altogether, enter D-E-L (do not press the DEL key). JUST ASK deletes the sentence and then returns you to the SENTENCE NAME prompt. In this case, proceed as described in Step 2.

If you do not want to change the sentence, answer NO and proceed as described in Step 8.

If you do want to change the sentence, answer YES. Then JUST ASK allows you to edit the sentence on a line-by-line basis. The cursor moves to the end of the first line of the sentence and waits. To leave the line unchanged, press RETURN. To erase one character at a time, press BACKSPACE. To erase the entire line, press DEL.

After correcting the first line of the sentence, press RETURN. The cursor moves to the end of the next line of the sentence. Continue line-by-line editing until the sentence is complete. Then proceed as described in Step 6.

6. At this point you have either entered a new JUST ASK sentence or recalled an existing sentence and changed it. The screen displays:

```
SAVE THIS SENTENCE? (YES/NO)
```

If you want to save this sentence, answer YES and proceed to Step 7. Otherwise, answer NO and proceed to Step 8.

7. When you indicate that you want to save your sentence, the screen displays:

```
SENTENCE NAME: (the name you entered previously)
```

If you have recalled a sentence and changed it, the original sentence name is displayed. You can accept this name as is (just press RETURN), or you can change it (erase using BACKSPACE or DEL). If you save the changed sentence using the original sentence name, the changed sentence replaces the original sentence. In this case, you can no longer recall the original sentence.

If you attempt to name a sentence with a name that has been used previously--JUST ASK will reject the name for this second use.

8. JUST ASK "reads" your sentence and checks for errors. As this process occurs the words "NOW CHECKING" will appear. If any error is found, an error message is displayed. If this happens, refer to Step 9.

   If no error is found, the report is produced. Before printing or displaying the actual report, JUST ASK outputs the sentence that was used to produce the report.

   If the report is displayed, one "screenful" of the report appears at a time. You must press RETURN when you are ready to see the next "page" of the report.

   If the report is printed, it may print continuously, or it may stop at the end of each page, depending upon the form control setting of the JUST ASK device number you are using. If printing does stop at the end of each page, you must press the RETURN key or flip a printer switch to resume printing, depending again upon the JUST ASK device number you are using. See "Describe A Device" in Appendix B for details.

   After printing or displaying the report, the system outputs the number of records passed and number of records reported. The number of records passed is the total number of records in the file, the number of records reported is the number of records actually selected for inclusion in the report.

9. If JUST ASK cannot "understand" your sentence, it displays an error message. This message represents JUST ASK's "best guess" as to the cause of the error. Many errors are caused simply by misspelling a file name or element name. Refer to Appendix A for explanations of all the possible error messages.

   After displaying an error message, JUST ASK waits for you to press RETURN before continuing. When you do press RETURN, JUST ASK transfers you back to the SENTENCE NAME: prompt.

SECTION 3 JUST ASK SENTENCES

Section 2 described how to print or display a report by entering a JUST ASK sentence. However, it did not tell you how to create a sentence. This section describes how to compose a JUST ASK sentence to produce the report you want.

3.1 OVERVIEW

Some sample JUST ASK sentences are shown below:

```
LIST THE EMPLOYEE FILE FOR NAME, HIREDATE, AND POSITION.

COUNT THE EMPLOYEES WITH VACATION > 2.

FILL THE PROSPECTS IN THE LETTER.

CREATE THE INVENTORY FILE IN NEW\INV IF PROD\CAT # 1.
```

As you can see, a JUST ASK sentence resembles an ordinary English sentence. Of course, the construction of the sentence must follow certain rules regarding sentence order and punctuation, as described in the next subsection. Basically, you form the sentence using special words that indicate the type of report you want (for example, LIST or COUNT) together with the names of the file and elements that supply the data for the report (for example, INVENTORY and ON\ORDER). In addition, you can use certain "connecting" words to improve readability (for example, THE and AND).

JUST ASK sentences can be classified into four broad categories: report, query, document fill, and file manipulation. The sample sentences include one from each category.

The first sentence is the "report" type. It would produce a report like the following:

```
  09/29/82              02:09:24                                PAGE 001
LAST NAME, FIRST              HIREDATE POSITION
ROGERS, CARL                  05/18/75 DRAFTSMAN
CAMDEN, RANDAL                11/23/70 JANITOR
PAGE, KITTY                   04/12/80 CLERK
ELLIOT, BILL                  04/21/80 MANAGER
PAYTON, JACK                  03/21/76 CLERK
JACKSON, ANDREW               01/21/79 CLERK
REGAN, DENNIS                 06/07/79 PRODUCTION
FLANAGAN, ALBERT              04/04/76 CLERK
MANNING, JOSEPH               09/28/82 SALES MANAGER
BORDON, JACK                  08/14/75 SALES
ZENITH, FRED                  01/30/79 SALES
JAMESON, MARY                 06/07/76 TYPEST
BENSON, JANICE                12/16/79 SECRETARY
KRAMER, JOHN                  08/23/78 SALES
FOOTE, DONNA                  06/12/81 DRAFTSMAN
CRAIG, PETER                  08/21/70 CLERK
MARTIN, CARRY                 04/23/79 CLERK
VANBUREN, ROGER               08/31/78 PRODUCTION
KASBACH, AMY                  03/13/76 MANAGER
MILTON, GEORGE                04/12/75 SALES
MARTIN, FRANK                 06/22/79 DISTRICT MANAGER
RICHARDS, DON                 09/14/76 SALES
PETERS, DEBBIE                04/23/73 SALES
CHESLEY, LOUIS                05/07/80 CLERK
CROW, MAT                     09/13/80 SALES
BLOOM, DICK                   09/23/82 SALES
```

The next sentence is the "query" type. No report, in the usual sense, is produced; instead, a question is answered, for example:

```
NUMBER OF RECORDS PASSED: 76
NUMBER OF RECORDS COUNTED: 29
```

The third sentence is the "document fill" type. JUST ASK can extract data from a file and insert it into a word processing document. "FILL THE PROSPECTS IN THE LETTER" might take the name and address of each prospect from a mailing list file and insert it into a letter, thus creating a batch of "personalized" letters.

The last sample sentence is the "file manipulation" type. Sentences of this type cause selected records to be copied from one file to another. The records can be changed as they are copied. No report is produced, except that information regarding the number of records processed is displayed or printed.

In summary, then, JUST ASK sentences are English-like sentences that include special JUST ASK words, file and element names, and connecting words. A sentence can be used to accomplish any one of the following:

1) produce a report
2) answer a query
3) fill data into word processing documents
4) manipulate selected records from one file to another.

There are two general features that apply to most reports. First, JUST ASK prints or displays the sentence that generates a report before it actually produces the report. Second, JUST ASK prints or displays two lines following each report. The first line indicates the total number of records in the file. The second line indicates the number of records selected for the report.*

For example, following a report produced by the sentence:

```
LIST THE INVENTORY ITEMS WITH PRICE = 10.00
```

you might see these two lines:

```
NUMBER OF RECORDS PASSED:  832
NUMBER OF RECORDS REPORTED:  34
```

These lines indicate that there were 832 items in the INVENTORY file, and that 34 of these items had a price of 10.00.

---

* The exceptions are reports which are generated from the verbs INSERT, FILL, or MULTIFILL. INSERT is designed to use preprinted forms. Thus, printing these elements would waste forms. FILL and MULTIFILL are printed by the word processor on letterhead or letter quality paper. Printing these lines would also waste paper.

The remainder of this section describes how to compose a JUST ASK sentence to accomplish a desired objective. A hypothetical employee file will be used as a basis for sample reports. The following file format for employee information designates the KEY ELEMENT, by which you access a record; the type of elements, whether alpha or numeric; the nature of the information in the elements; and the character descriptions, such as, how many characters in a string and if they are separated by hyphens.

Element Name	Type of Element	Type of Information	Character Description
EMP\NO	ALPHA	EMPLOYEE NUMBER	XXXX
SS\NO	ALPHA	SOC. SECURITY NO.	XXX-XX-XXXX
NAME	ALPHA	LAST, FIRST	(28 CHARS MAX)
ADD1	ALPHA	STREET ADDRESS	(28 CHARS MAX)
ADD2	ALPHA	CITY, STATE	(28 CHARS MAX)
ZIP	ALPHA	ZIP CODE	XXXXX
PHONE	ALPHA	PHONE NUMBER	XXX-XXX-XXXX
SEX	ALPHA	M OR F	X
MARITAL	ALPHA	M OR S	X
DEPEND	NUMERIC	NUMBER OF DEPENDENTS	99
DEPT\NO	NUMERIC	DEPARTMENT NUMBER	XXX (ENTER AS 013, ETC.)
HIREDATE	ALPHA	DATE OF HIRE	MM/DD/YY
POSITION	ALPHA	POSITION	17 CHARS MAX
GRADE	ALPHA	SALARY GRADE	XX (ENTER AS 05, ETC.)
PAYCODE	ALPHA	A, B, OR C	X
RATE	NUMERIC	PAY RATE	999999.99
VACATION	NUMERIC	ACCUM. VACATION HOURS	999
SICK	NUMERIC	ACCUM. SICK LEAVE	999

3.2 RULES OF SENTENCE STRUCTURE AND PUNCTUATION

This subsection describes the rules you must follow in constructing a JUST ASK sentence. If you make an error in a JUST ASK sentence, JUST ASK will detect it when you attempt to use the sentence with the Print or Display A Report function. JUST ASK then displays an error message, and no report is produced. If this happens, there is no need to be unduly concerned. No damage to your data can occur. Refer back to this section and/or Appendix A (Error Messages), correct your error, and try again.

3.2.1 PUNCTUATION

There are three basic rules of punctuation:

1. All letters used in a JUST ASK sentence must be upper-case (capitalized).

2. The sentence must end with a period.

3. Words must be separated by one or more spaces, or a comma, or both.

3.2.2 PARTS OF SPEECH

The words used in a JUST ASK sentence must either be "reserved" words or previously defined data names.

3.2.2.1 JUST ASK Reserved Words

Table 3-1 shows all the reserved words, classified into three groups: verbs, phrases, and connectors.

Table 3-1 JUST ASK Reserved Words

Verbs	Phrases	Connectors
LIST	AGAINST	A
INSERT	BY	ALL
COUNT	BY DESCENDING	AN
SUM	WITH, IF	AND
CHART	OR	ANY
ANALYZE	BREAK-ON	ARE
FILL	PAGE-ON	BUT
MULTIFILL	RESTART-ON	FILE
CREATE	TOTAL	FOR
MERGE	TOTAL-ALL	IN
DELETE	AVERAGE	INTO
	AVG-ALL	ITEMS
	PERCENT	OF
	PRE-ALL	THE
	EVALUATE	
	EVAL-ALL	
	LETTING	
	SWITCHING	
	FILL-DOCUMENT	

Verbs indicate what type of "report" is desired--whether a standard report, a graph, a document fill, and so on. Every sentence has one and only one verb.

Phrases can be added to a sentence as desired to further define the required output--perhaps the data should be sorted into a particular order, or a report form should be used, and so on.

Connectors have no effect whatsoever on the output, but can be added to the sentence as desired to improve readability.

3.2.2.2 Data Names

Data names are the names of files, elements, forms, or word processing documents. The actual data in files, elements, and forms will be different from the names. For example, "PART\NO" would be the JUST ASK name of an element but not an actual part number, such as "231B". The data names you use in a sentence must have been previously defined using the Layout a Data Entry Form function or, in the case of documents, the Word Processor.

If you are just learning to use JUST ASK, it is likely that some files and forms have already been created for you. In this case, all you need is a list of all the data names. If you do not already have a list, you can use the JUST ASK utilities to produce one (see "List File Elements" and "List Forms and Files" in Appendix B).

If you ever create your own data names, make sure you follow these rules:

1) The name cannot be longer than eight characters;

2) It cannot be all numeric;

3) It cannot contain embedded spaces or any of the following characters: + - * / ( ) = # > < [ ] , .

4) It cannot be a JUST ASK reserved word.

3.2.3 SENTENCE ORDER

The following three rules regarding sentence order apply to all JUST ASK sentences. With certain verbs, there are some additional requirements. These are summarized in the next subsection (Special Rule Summary).

1. The first word in a sentence must be a JUST ASK verb. Only one verb is allowed in a sentence.

2. After the first word, JUST ASK connectors can be inserted anywhere.

3. Not counting any connectors that may be present, the second word in a sentence must be a JUST ASK file name.

3.2.4 SPECIAL RULE SUMMARY

Special rules that apply only to particular types of sentences are listed here for reference purposes. If you are just learning about JUST ASK, skip this section and continue reading at Section 3.3. The rules are introduced as needed in the subsections that follow.

VERB	SPECIAL RULES
INSERT	Must be used with an AGAINST phrase.
COUNT	Provides a count of records within a file. Element names are not counted. Use only with phrases: WITH, IF, and OR with COUNT sentences.
SUM	Provides a sum of elements within a named file. Numeric element names are required. Use only with phrases: WITH, IF, OR, BY, BY-DESCENDING, BREAK-ON, PAGE-ON, LETTING, and SWITCHING.
CHART	Follows the same rules as SUM. In addition, there should be the same number of decimal places in the format of each element.
ANALYZE	Follows the same rules as SUM.
FILL	The third non-connecting word in the sentence must be a word processing document name. Use only phrases: BY, BY-DESCENDING, WITH, IF, OR, LETTING, and SWITCHING. There are special device number considerations (see Subsection 3.3.3.1).
MULTIFILL	Follows the same rules as FILL. In addition, should only be used in a sentence with multiple WITH/IF phrases. Each WITH/IF condition should be followed by a FILL-DOCUMENT phrase.
CREATE, MERGE	The second non-connecting word in the sentence must be the input filename, while the third must be the output filename. Except when using MERGE, the output file should be empty. The only phrases allowed are WITH, IF, OR, LETTING, and SWITCHING.

3.3 VERBS

A verb indicates what type of "report" is desired. Every sentence has one and only one verb, which must be the first word in the sentence.

The functions of the various verbs can be briefly summarized as follows:

"REPORT" CATEGORY

LIST	Produces a detailed report on the contents of a file.
INSERT	Produces a batch of preprinted forms.

"QUERY" CATEGORY

COUNT	Counts the number of records in a file.
SUM	Sums the specified elements in a file.
CHART	Totals the specified elements in a file, and presents the results as a bar graph.
ANALYZE	Gives statistics for specified elements in a file, including total, average, percentage, minimum, and maximum.

"DOCUMENT FILL" CATEGORY

FILL	Extracts data from a file and fills it into a word processing document, producing one document for each record processed.
MULTIFILL	Extracts data from a file and fills it into a "variable" word processing document.

"FILE MANIPULATION" CATEGORY

CREATE	Creates a new file by copying selected records from an existing file. May make changes to selected elements.
DELETE	Removes records from the file if they pass the conditions specified in WITH or IF phrases.
MERGE	Adds records from one file into another file. May make changes to selected elements.

3.3.1 REPORT VERBS

The two report verbs are LIST and INSERT.

3.3.1.1 List

LIST produces a detailed report on the contents of a file. It is probably the most commonly used verb. If you want a report showing the name, department number, and position of each person in the EMPLOYEE file (the sample file introduced in Subsection 3.1), you can use a sentence such as:

```
LIST THE EMPLOYEE FILE FOR NAME, DEPT\NO, AND POSITION.
```

This sentence would produce a report like this:

```
 09/29/82                02:14:04                                PAGE 001
LAST NAME, FIRST                 DPT POSITION
ROGERS, CARL                     014 DRAFTSMAN
CAMDEN, RANDAL                   013 JANITOR
PAGE, KITTY                      012 CLERK
ELLIOT, BILL                     012 MANAGER
PAYTON, JACK                     013 CLERK
JACKSON, ANDREW                  013 CLERK
REGAN, DENNIS                    014 PRODUCTION
FLANAGAN, ALBERT                 014 CLERK
MANNING, JOSEPH                  014 SALES MANAGER
BORDON, JACK                     014 SALES
ZENITH, FRED                     013 SALES
JAMESON, MARY                    014 TYPEST
BENSON, JANICE                   013 SECRETARY
KRAMER, JOHN                     L   SALES
FOOTE, DONNA                     013 DRAFTSMAN
CRAIG, PETER                     013 CLERK
MARTIN, CARRY                    014 CLERK
VANBUREN, ROGER                  012 PRODUCTION
KASBACH, AMY                     014 MANAGER
MILTON, GEORGE                   012 SALES
MARTIN, FRANK                    014 DISTRICT MANAGER
RICHARDS, DON                    012 SALES
PETERS, DEBBIE                   014 SALES
CHESLEY, LOUIS                   014 CLERK
CROW, MAT                        014 SALES
BLOOM, DICK                      014 SALES
```

Notice how JUST ASK has formatted the report "automatically". It provides the date, time, page number, and column headings. The columns are neatly spaced. JUST ASK uses the column headings that were specified when the file and its elements were defined (using Layout A Data Entry Form--see Section 6). You can use Layout A Data Entry Form to change these headings at any time.

However, you do not have to use this "automatic" format for the report. You can design your own report format by building a "report form". Then you produce the report using a LIST sentence with an AGAINST phrase, as discussed in Subsection 3.4.* (Report forms are described in Section 4.)

Report forms are the recommended method for complex reports as well as any reports that are produced regularly. However, for once-only reports, where you are more concerned with getting the information quickly than with the format, you can usually achieve a suitable format using LIST together with various JUST ASK phrases (other than AGAINST).

Each element you specify in the LIST sentence appears as a column on the report. The columns are placed in the same order as you list them in the sentence. For example, if you wanted department number to appear first on the report shown in the previous example, you could use the sentence:

```
LIST EMPLOYEE FOR DEPT\NO, NAME, AND POSITION.
```

If you don't specify any element names, as in "LIST THE EMPLOYEE FILE.", JUST ASK includes all the elements in the file on the report. In this case, the elements appear in whatever order they happen to exist in the file.**

---

* LIST can also be used with AGAINST a report form file to produce a batch of forms.

** If the records in a file have very many elements, you cannot LIST all the elements on one report. The error message "SORRY, THERE ARE NO MORE BUFFERS AVAILABLE" means that JUST ASK does not have enough memory space to produce the report you want. If this happens, you will have to specify fewer elements for the report.

There is a special field name, ^^LINE^^, which produces line numbers on a LIST report. For example, the sentence "LIST EMPLOYEE FOR ^^LINE^^, DEPT/NO, AND NAME." would produce a report like this:

```
 09/29/82            00:00:54                                    PAGE 001
    DPT LAST NAME, FIRST
0001 014 ROGERS, CARL
0002 013 CAMDEN, RANDAL
0003 012 PAGE, KITTY
0004 012 ELLIOT, BILL
0005 013 PAYTON, JACK
0006 013 JACKSON, ANDREW
0007 014 REGAN, DENNIS
0008 014 FLANAGAN, ALBERT
0009 014 MANNING, JOSEPH
0010 014 BORDON, JACK
0011 013 ZENITH, FRED
0012 014 JAMESON, MARY
0013 013 BENSON, JANICE
0014 014 KRAMER, JOHN
0015 013 FOOTE, DONNA
0016 013 CRAIG, PETER
0017 014 MARTIN, CARRY
0018 012 VANBUREN, ROGER
0019 014 KASBACH, AMY
0020 012 MILTON, GEORGE
0021 014 MARTIN, FRANK
0022 012 RICHARDS, DON
0023 014 PETERS, DEBBIE
0024 014 CHESLEY, LOUIS
0025 014 CROW, MAT
0026 014 BLOOM, DICK
```

There are several phrases that can be used in a LIST sentence. These are discussed in Subsections 3.4 and 3.5.

To complete this discussion of LIST, there is one final note about format. As illustrated by the preceding sample reports, the data is usually presented in columns. However, it may happen that the report includes so many elements that it is too wide for the display screen or the paper you are using.

When this happens, JUST ASK automatically changes to another format, listing the elements for each record vertically rather than horizontally. For example, following is the first record in the report produced by the sentence "LIST THE EMPLOYEE FILE." Although this type of report is the simplest to generate, it appears poorly organized and accesses the information in a random fashion.

```
09/29/82          03:00:01                    PAGE 001

DP  4
VAC  63
LAST NAME, FIRST ROGERS, CARL
HIREDATE 05/18/75
SOC SEC# 687-09-6481
STREET ADDRESS 4562 BELMONT
P M
S M
SIC  16
EMP# 1972
ZIP 90803
DPT 014
CITY, STATE LONG BEACH, CA
POSITION DRAFTSMAN
RATE   1800.00
M M
PHONE NUMBER 213-678-9812
GR 04

DP  3
VAC  80
LAST NAME, FIRST CAMDEN, RANDAL
HIREDATE 11/23/70
SOC SEC# 765-12-1425
STREET ADDRESS 101 E. BARRINGER
P W
S M
SIC  32
EMP# 1116
ZIP 91426
DPT 013
CITY, STATE SAN PEDRO, CA.
POSITION JANITOR
RATE   1400.00
M M
PHONE NUMBER 213-485-9015
GR 02

DP  4
VAC  68
LAST NAME, FIRST PAGE, KITTY
HIREDATE 04/12/80
SOC SEC# 332-81-1026
STREET ADDRESS 340 E. WILLIAMSON
P F
S F
SIC   8
EMP# 1076
ZIP 98012
DPT 012
CITY, STATE ALTADENA, CA.
POSITION CLERK
RATE   1200.00
M M
PHONE NUMBER 213-586-0982
GR 02

DP  0
```

3.3.1.2 Insert

INSERT allows you to produce a batch of preprinted forms. INSERT should always be used with AGAINST to produce a report form. Please refer to Subsection 3.4.1 for detailed instructions. If INSERT is used without an AGAINST phrase, it produces the same report as LIST.

3.3.2 QUERY VERBS

The verbs in the "query" category are COUNT, SUM, CHART, and ANALYZE. Rather than producing detailed reports listing individual records in the file, these verbs provide one or more summary statistics on the file records or elements.

3.3.2.1 Count

COUNT simply tells you how many records are in a file. It can be used to count the total number of records in the file or the number of records which meet a certain condition.

For example, to count the total number of records in the EMPLOYEE file,* use the sentence:

```
COUNT THE EMPLOYEE FILE.
```

Then JUST ASK responds:

```
NUMBER OF RECORDS PASSED:  26
NUMBER OF RECORDS COUNTED:  26
```

If you want to count the number of records that satisfy certain conditions, you can add a WITH or IF phrase to the COUNT sentence. For example, to count the number of employees with more than 40 hours of vacation leave, you could use a sentence such as:

```
COUNT THE EMPLOYEE WITH VACATION > 40.
```

---

*See Subsection 3.1 for details regarding the sample EMPLOYEE file.

Then JUST ASK responds:

```
NUMBER OF RECORDS PASSED:  26
NUMBER OF RECORDS COUNTED:  12
```

WITH/IF phrases are fully described in Subsection 3.4. The only phrases that can be used with COUNT are WITH, IF, and OR. No other phrases or adjectives are allowed.

Notice also that you cannot add element names to a COUNT sentence as you might to a LIST sentence, because COUNT totals the number of records, not the values in any element area. For example, you CANNOT use the sentence:

```
COUNT THE EMPLOYEE FILE FOR SICK AND VACATION.
```

If you are trying to total sick leave and vacation leave, you should be using SUM, as described in the next subsection.

3.3.2.2 Sum

SUM is a JUST ASK verb in the "query" category. Rather than producing a detailed report, it simply tells you the total value of one or more numeric fields in the file.

You must specify the particular elements you want to total in the SUM sentence. For example, in response to the sentence:

```
SUM THE EMPLOYEE FILE FOR VACATION AND SICK.
```

JUST ASK produces these totals:

```
NAME                TOTAL
VACATION              511
SICK                  479
```

Of course, you cannot total elements that do not contain numeric values. For example, you cannot total a name, description, or address element.

If you enter a sentence such as:

```
SUM THE EMPLOYEE FILE FOR NAME.
```

JUST ASK responds with the error message:

```
SORRY, NON-NUMERIC ELEMENT IN SUM/ANALYZE/CHART
SENTENCE.
```

Sum can be used with the phrases WITH, IF, and OR to select particular records to be used for the totals.

For example, you might want the accumulated vacation for all employees in Department 013. You could use a sentence such as:

```
SUM THE EMPLOYEE FOR VACATION IF DEPT\NO = "013".
```

JUST ASK produces this total:

```
NAME                    TOTAL
VACATION                127
```

For details regarding phrases, refer to Subsection 3.4. SUM can also be used with BY, BY-DESCENDING, BREAK-ON, and PAGE-ON.

3.3.2.3 Chart

CHART is a JUST ASK verb in the "query" category. It is very similar to SUM, because it totals the value of one or more numeric elements in the file. However, CHART presents the totals in the form of a bar graph as well as showing the actual total value.

For example, in response to the sentence:

```
CHART THE EMPLOYEE FILE FOR SICK AND VACATION.
```

JUST ASK produces this graph:

```
  09/29/82              02:43:42                                PAGE 001
0                                 1000                                  2000
|------+------+------+------+------+------+------+------+------+------+------|
| SICK      479
%%%%%%%%%%%%%%%%%
|
| VACATION 1511
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
|
|------+------+------+------+------+------+------+------+------+------+------|
0                                 1000                                  2000
```

CHART sentences follow the same rules as SUM. You must specify the elements you want to total and graph, and all of these elements must be numeric. The only phrases that can be used with CHART are WITH, IF, OR, BY, BY-DESCENDING, BREAK-ON, and PAGE-ON.

In addition to these rules, there is a rule regarding the format of the elements. When you define a numeric element (using Layout A Form), you specify the format of the element. That is, you specify how many digits there can be on each side of the decimal point and how to indicate negative values (leading/trailing minus sign or parentheses).

When you use CHART make sure all the elements in the sentence have the same number of decimal places in the format. For example, the formats -XXXX.XX, (XXXXXX.XX) and XXX.XX- are all compatible with each other (each has two decimal places), while -XXXX.XX and -XXXX.XXX are not.

JUST ASK produces a bar chart in the following manner. First it totals the elements specified exactly as it would in a SUM sentence. Then it compares the various element totals to find the one with the largest absolute value, regardless of minus sign. It then takes this value and computes a maximum "round" figure greater than the value. The "round" figures start with hundreds, progresses to thousands, then ten thousands, hundred thousands, etc. For example, for a total value of 154, 200 would be chosen as a maximum value for the graph. For a total value of 1154, 2000 would be chosen.

After having chosen a maximum value JUST ASK then determines the scale of the graph by dividing the maximum value by the width of the device. An exception to this rule is negative total values. If some or all of the values are negative, the scaling factor is determined by dividing the maximum value by twice the device width because this graph will range from negative maximum value to positive maximum value. (The more typical graph contains only positive totals and runs from zero to the positive maximum value.) Note the following example of a positive/negative bar graph.

```
 10/25/82            00:57:23                                PAGE 001
-2000                                0                                2000
\------+------+------+------+------+------+------+------+------+------\
\ ON\HAND         1812                                                 \
                                     %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%    \
\                                                                      \
\ M\T\D            865                                                 \
                                     %%%%%%%%%%%%%%%%                   \
\                                                                      \
\ Y\T\D           2000                                                 \
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%                                  \
\                                                                      \
\------+------+------+------+------+------+------+------+------+------\
-2000                                0                                2000
```

After having determined the scaling factor for the graph, JUST ASK determines the length of the bar for each element's total by dividing the total value by the scaling factor and taking the whole number portion of the result to be the length of the bar. For example, if our largest element total value is 154, JUST ASK would select a graph maximum of 200. If this chart is to be displayed on an 80 column device and all of the totals are positive, the scaling factor would be 2.5 or 200/80. The element with the total of 154 would be portrayed by a bar that was 62 columns long (154/2.5).

One other feature to note is that JUST ASK labels the start of the graph and the end of the graph and then breaks the graph into ten sections with a "tick" in between. The "tick" marks identify one tenth of the graph. In our previous example, each "tick" mark would represent 20, so that the bar for our value of 154 would end between the seventh and eighth "tick" mark.

The last feature to note is that you may achieve more resolution in your bar charts by using larger devices. In our previous example, the 80 column width of our device resulted in a scaling factor of 2.5 per column. If this same sentence were to use a 132 column device, each column would represent 1.5 (200/132) or a finer grain of resolution.

3.3.2.4 Analyze

ANALYZE is a JUST ASK verb in the "query" category. Like CHART and SUM, it totals the value of one or more numeric elements in the file. In addition to the total value, however, it gives the average, minimum, maximum, and percentage value for each element as well.

You must specify the elements you want to ANALYZE, and all of these elements must be numeric. For example, in response to the sentence:

```
ANALYZE THE EMPLOYEE FILE FOR SICK AND VACATION.
```

JUST ASK produces this output:

```
  09/29/82          02:44:45                                PAGE 001
TOTAL          AVERAGE          MINIMUM          MAXIMUM          PERCENTAGE
SICK
479             18                8               32               100 %
VACATION
511             58                8               80               100 %
```

You should notice that in our example all of the percentage values are 100%. That is because, as described in Subsection 3.4, you can use the BY and BREAK-ON (also BY-DESCENDING and PAGE-ON) phrases to break a report into related groups. When you do this with ANALYZE, JUST ASK gives statistics for each group in addition to the overall values for the entire report. That is, it gives the subtotal, average, minimum, maximum, and percentage value of each group for all numeric elements specified in the sentence.

For example, in response to the sentence:

```
ANALYZE THE EMPLOYEE FILE FOR VACATION AND SICK BY
DEPT\NO BREAK-ON DEPT\NO.
```

JUST ASK produces this report:

09/29/82 02:46:06 PAGE 001

TOTAL	AVERAGE	MINIMUM	MAXIMUM	PERCENTAGE
012				
VACATION				
268	53	8	80	17 %
SICK				
84	16	8	24	17 %
013				
VACATION				
343	49	20	80	22 %
SICK				
147	21	12	32	30 %
014				
VACATION				
853	65	43	74	56 %
SICK				
240	18	8	32	50 %
L				
VACATION				
47	47	47	47	3 %
SICK				
8	8	8	8	1 %
VACATION				
511	58	8	80	100 %
SICK				
479	18	8	32	100 %

3.3.3 DOCUMENT FILL VERBS

The verbs in the "document fill" category are FILL and MULTI-FILL. These verbs combine the capabilities of JUST ASK and the Word Processor to produce a series of word processing documents, with each document containing data that JUST ASK extracts from one record in a file.

3.3.3.1 Fill

Consider the sample EMPLOYEE file. Suppose you want to send a memo to each employee which lists the accumulated vacation and sick leave for that employee. A LIST report is not suitable; it would produce one report showing all the employees. You want a separate memo for each employee.

This task can be accomplished using FILL. First, you create a "master" memo using the Word Processor. The master memo will be an ordinary Word Processing document, except that it will contain "^" characters wherever you want JUST ASK to insert data.

For example, the master employee memo might look like this:

```
                    PERSONNEL NOTICE

TO: ^
RE:  ACCUMULATED LEAVE

Our records show that you have accumulated ^ hours
of vacation and ^ hours of sick leave.  Please
direct any inquiries to Marie Caldwell in the
Personnel Department.
```

This memo contains blank areas (indicated by "^" characters) which are to be FILLed with the name, vacation, and sick leave of each employee. JUST ASK will print one of these memos for each employee, FILLing the "^" areas with data from the EMPLOYEE file.

You create the memo using the Word Processor (refer to your word processing manual). When you KEEP the document, the document name you use must fulfill the requirements of a JUST ASK data name. These requirements are as follows:

1) the name cannot be longer than eight characters;

2) it cannot be all numeric;

3) it cannot contain embedded spaces or any of the following characters: + - * / ( ) = # > <] [, .

4) it cannot be a JUST ASK reserved word.

For example, suppose you have used the Word Processor to create the master memo, storing it under the name ACCLEAVE. The next step is to use JUST ASK to FILL the memo. You could use the sentence:

```
FILL EMPLOYEE IN ACCLEAVE FOR NAME, VACATION, AND SICK.
```

In response to this sentence, JUST ASK will produce one memo for each employee in the EMPLOYEE file. For example, the first memo could be:

```
                    PERSONNEL NOTICE

        TO: KITTY PAGE
        RE: ACCUMULATED LEAVE

        Our records show that you have accumulated 68 hours
        of vacation and 8 hours of sick leave. Please
        direct any inquiries to Marie Caldwell in the
        Personnel Department.
```

Look carefully at the sentence "FILL EMPLOYEE IN ACCLEAVE FOR NAME, VACATION, AND SICK." As always, the verb is first, followed by the file name. Notice, however, that the next non-connecting word is ACCLEAVE, the name of the word processing document. This rule applies to all FILL sentences:

> The third word in a FILL sentence (not counting any connectors) must be a document name.

Following the document name are the names of the elements you want JUST ASK to insert into each document. You must add the element names <u>after</u> the document name. The elements will be inserted in the order in which they are listed in the sentence.

For example, suppose you change ACCLEAVE slightly, as shown below:

```
                    PERSONNEL NOTICE

TO: ^
RE: ACCUMULATED LEAVE

Our records show that you have accumulated ^ hours
of sick leave.  Please direct any inquiries to
Marie Caldwell in the Personnel Department.
```

The elements to be inserted into this memo are, in order, name and sick leave. Therefore, the correct JUST ASK sentence would be:

```
FILL EMPLOYEE IN ACCLEAVE FOR NAME AND SICK.
```

In many cases, you will want to add a BY (or BY-DESCENDING) phrase to the FILL sentence, so that the individual reports are printed in a particular order. (BY phrases are fully described in Subsection 3.4.) In our example, it might simplify distribution of the memos if they were printed alphabetically by employee name.

The JUST ASK sentence would then be written as:

```
FILL EMPLOYEE IN ACCLEAVE BY NAME FOR NAME AND SICK.
```

Many FILL sentences will also include WITH/IF phrases, so that documents are printed only for selected records in the file. (WITH/IF phrases are fully described in Subsection 3.4.) For example, you would want to send a dunning letter only to customers with overdue accounts.

In our example, suppose employees cannot accumulate more than 160 hours of sick leave. You might want to send a warning to any employee with 150 hours of sick leave. The JUST ASK sentence would then be written as:

```
FILL EMPLOYEE IN ACCLEAVE IF SICK = 150 FOR NAME AND SICK.
```

You must give special attention to the device number you use for FILL reports. You cannot display a FILL report on the screen; it must be printed. Also, the JUST ASK device definition must specify NO for the RELEASE DISPLAY WHILE PRINTING entry (see "Describe A Device" utility in Appendix B).

The JUST ASK device definition includes two entries that apply to FILL: a word processing volume number and a word processing printer format number. The volume number indicates which volume contains the document you are FILLing. The word processing printer format controls the printed output--spacing, page length, form control, justification, and so on.

Note that the settings in the word processing printer format override the settings of the JUST ASK device. Note also that the word processing printer format must specify continuous form control (pages feed continuously without interruption) or switch form control (printer stops at the end of each page and waits until you press a printer switch). You cannot use keyboard form control (printer stops at the end of each page and waits for you to press the RETURN key).

3.3.3.2 Multifill

MULTIFILL allows you to fill different documents under different conditions. For example, suppose you want to send letters to customers with overdue accounts. Using MULTIFILL, you can send one letter to customers with accounts 90 days overdue, another letter to customers with accounts 60 days overdue, and yet another letter to those with accounts only 30 days overdue.

A MULTIFILL sentence always includes WITH/IF and FILL-DOCUMENT phrases. Before learning about MULTIFILL, you should be familiar with WITH/IF phrases, as described in Subsection 3.4.3.

Suppose you have a CUSTOMER file which includes the elements NAME, ADDR1, ADDR2, 0\30, 31\60, 61\90, 91\UP, and TOTALDUE. You want to send different dunning letters to customers with balances due 31-60 days, 61-90 days, and over 90 days. Although the letters are different, each is to be filled using the same elements: name and address to be filled in the heading, name to be filled in the salutation, and the total amount due to be filled in the body. You could use a sentence such as:

```
MULTIFILL THE CUSTOMER FILE FOR NAME, ADDR1, ADDR2,
NAME, AND TOTALDUE,
IF 91\UP > 0  FILL-DOCUMENT LETTER90,
IF 61\90 > 0  FILL-DOCUMENT LETTER60, AND
IF 31\60 > 0  FILL-DOCUMENT LETTER30.
```

In general, if you want to fill document-1 when condition-1 is true, document-2 when condition-2 is true (but condition-1 is false), and so on, you use a sentence of the form:

```
MULTIFILL filename element-1, element-2, ...
AND element-n,
IF condition-1  FILL-DOCUMENT document-1,
IF condition-2  FILL-DOCUMENT document-2,
...
IF condition-x  FILL DOCUMENT document-x.
```

Notice that you must fill the same elements in the same order into the various documents. Another important point to note is that the conditions are tested in order of their appearance in the sentence. As soon as a true condition is found, the corresponding FILL-DOCUMENT is produced, and JUST ASK starts processing the next record in the file.

Therefore, even if several conditions are true for a particular record, only one fill document is produced for that record. If no condition is true for a given record, that record is not filled into any document.

3.3.4 FILE MANIPULATION VERBS

There are three JUST ASK verbs that help you manipulate files--CREATE, MERGE, and DELETE.

3.3.4.1 Input and Output Files

The verbs CREATE and MERGE work with two files, input and output, passing records from the input file to the output file. The input file is the existing file to be manipulated in some way. In the case of CREATE, the output file is an empty file which will be initialized and completely overwritten, the information erased and irrevocably lost. Therefore, it is imperative that no data you wish to retain resides in the output file you are going to create. If in doubt, double check and make sure. In the case of MERGE, the output file is an existing file with existing records to which records from the input file will be added.

The verb DELETE works with one file removing selected records from it. The input file is then an existing file which contains information that is no longer needed. DELETE will permanently remove this information; the information will be irrevocably lost. Therefore, a warning is given prior to processing. You will be asked if you have a backup of this file. If you answer "NO", the deletion will not occur and your file will be unchanged. If you answer "YES", records will be permanently deleted, if they meet the criteria specified in the sentence by "WITH" and "IF" phrases.

The functions of the three file manipulation verbs can now be summarized as follows:

CREATE	Initializes the output file and then copies selected records from input to output, perhaps with changes to selected elements.
DELETE	Deletes selected records from the input file.
MERGE	Adds selected records from the input file to the output file, perhaps with changes to selected elements.

As always, the verb must be the first word in the JUST ASK sentence. The second word (not counting any connectors) should be the <u>input</u> file name. The third word in a CREATE or MERGE sentence must be the <u>output</u> file name. Phrases may follow the file name in any order, but generally the only phrases that can be used are WITH/IF, OR, LETTING, and SWITCHING. A sample sentence that illustrates these rules is:

```
CREATE EMPLOYEE IN NEW\EMP WITH DEPT\NO = "013"
LETTING RATE = RATE * 110 / 100.
```

There are different ways to use the input/output files. In many cases, you might want to permanently change a file--add a group of records, or insert a new element in each record, for example. In such cases, the output file becomes the new "active" file, while the input file becomes obsolete but remains as an "archive" or "backup", except in the delete case where you must make your own backup prior to processing.

In other cases, the output file is only for temporary storage. Suppose you want to produce a series of reports using a particular group of records within a file. Rather than process the entire file for each report, you could first CREATE an output file containing only the desired group of records, then use this smaller file to produce the series of reports. This should reduce the overall processing time required. After the reports have been produced, the output file would no longer be needed.

3.3.4.2 Create

CREATE is used to copy records from an existing input file to an empty output file--that is, it "creates" a new file. Make sure that the output file exists and is empty. CREATE "initializes" the output file before it starts copying records, so if the output file does contain records already, they are erased before copying begins.

A CREATE sentence must have the form "CREATE input-file-name output-file-name." You can also add WITH/IF, OR, LETTING, and/or SWITCHING phrases after the output file name. (These phrases are described in detail in Subsection 3.4.)

For example, "CREATE EMPLOYEE IN NEW\EMP WITH DEPT\NO = 2." would create a NEW\EMP file containing employee records for Department 2 only. The sentence "CREATE EMPLOYEE IN NEW\EMP LETTING RATE = RATE * 110 / 100." would create a NEW\EMP file in which each pay rate has been increased by 10%.

"CREATE EMPLOYEE IN NEW\EMP SWITCHING EMP\NO AND NAME." would create a NEW\EMP file containing the same data as EMPLOYEE. However, NEW\EMP would be accessed by NAME as the key element, with EMP\NO becoming an ordinary data element.

3.3.4.3 Delete

DELETE removes records from the input file, and produces effects that are the exact opposite of CREATE.

For example, "CREATE EMPLOYEE IN NEW\EMP WITH DEPT\NO = 2." creates a NEW\EMP file containing only employees from Department 2. On the other hand, "DELETE EMPLOYEE WITH DEPT\NO = 2." leaves an employee file containing all the employees except those from Department 2. In the first case the file NEW\EMP contains only the desired information, and EMPLOYEE is left unchanged, thus providing a backup. In the second, EMPLOYEE is changed to contain only the desired information, and there is no backup.

Every DELETE sentence should include at least one WITH\IF phrase. If no WITH\IF phrase is included, all records will be DELETED.

The DELETE sentence may not include LETTING and/or SWITCHING phrases.

3.3.4.4 Merge

MERGE copies records from an input file to an output file. However, MERGE does not initialize the output file before it starts copying. Therefore, you use MERGE when the output file already contains valid records and you want to add more records from an input file.

For example, suppose your business maintains separate employee files at two branch offices. Suppose the separate files are EMP\A and EMP\B, and you want to create a consolidated file called EMPLOYEE. You could use "CREATE EMP\A IN EMPLOYEE." followed by "MERGE EMP\B IN EMPLOYEE." This would create a consolidated EMPLOYEE file.

MERGE can be used with the phrases WITH/IF, OR, LETTING, and/or SWITCHING in the usual way (see Subsections 3.3.4.2 and 3.4 for examples).

3.4 PHRASES

A phrase is a group of words that can be added to a sentence to help specify the processing that is required. By adding phrases to a LIST sentence, for example, you can have records LISTed in a particular order and have column totals printed at the end of the report.

Phrases may appear in any order following the file name(s) in a sentence (except that in a document fill sentence, the phrase must follow the document name(s)). A sentence may contain a maximum of 99 phrases.

In most cases, a given phrase can only be used with certain verbs. For example, you would never use BY with COUNT, and AGAINST can only be used with a report verb (LIST or INSERT).

A phrase must begin with one of these reserved words:

AGAINST
BY
BY-DESCENDING
WITH
IF
OR
BREAK-ON
PAGE-ON
RESTART-ON
TOTAL
TOTAL-ALL
AVERAGE
AVG-ALL
PERCENT
PER-ALL
EVALUATE
EVAL-ALL
LETTING
SWITCHING
FILL-DOCUMENT

These reserved words have no meaning by themselves--they must appear with other words (usually element names) that you supply. The functions of these phrases can be summarized as follows:

AGAINST	Specifies a report form or a data entry form to be used to format the report.
BY or BY-DESCENDING	Specifies an element to be used for sorting or grouping the report into a desired order.
WITH or IF	Specifies a qualifying condition to be used for selecting particular records from the file.

OR	Allows logical ORing of the conditions specified in a WITH/IF phrase.
BREAK-ON	Specifies that the report be broken into groups based on the value of a particular element.
PAGE-ON	Like BREAK-ON, but starts each group on a new page.
RESTART-ON	Like PAGE-ON, but starts each group with a page numbered as 1.
TOTAL	Specifies an element to be totaled on the report. When used with BREAK-ON, group subtotals are also provided.
TOTAL-ALL	Like TOTAL, but allows you to specify multiple elements to be totaled.
AVERAGE	Specifies an element to be averaged on the report. When used with BREAK-ON, group averages are also provided.
AVG-ALL	Like AVERAGE, but allows you to specify multiple elements to be averaged.
PERCENT	Specifies that the group subtotals for a particular element be expressed as percentages of the corresponding report total.
PER-ALL	Like PERCENT, but allows you to specify multiple elements.
EVALUATE	Combines the functions of TOTAL, AVERAGE, and PERCENT.
EVAL-ALL	Like EVALUATE, but allows you to specify multiple elements.
LETTING	Adjusts the value of a specified element on a report or in an output file.
SWITCHING	Interchanges the physical position of two elements in an output file, or interchanges the values of two elements on a report.
FILL-DOCUMENT	Used only with MULTI-FILL to allow you to specify multiple fill documents.

3.4.1 AGAINST

An AGAINST phrase should only be used in a LIST or INSERT sentence along with a report form name or a data entry form name. Using a LIST sentence without AGAINST, you produce a report in a "default" or "automatic" format. By adding an AGAINST phrase, you can override this default format, replacing it with your own, as defined by a **form** of your design. There are two types of forms: Report and Data Entry.

Report forms are used to produce typical business reports. Such as monthly status reports, or price lists. To produce this type of report, the report form option provides special formatting features, such as report headers, page headers, and trailers.

Data Entry forms are used to produce batches of forms, such as W-2 forms, 1040 forms, and insurance forms. Additionally, Data Entry forms are used with the Make An Inquiry and Data Entry functions of JUST ASK.

An AGAINST phrase always has the form:

```
AGAINST form-name.
```

An AGAINST phrase in a sentence eliminates the need to specify the names of the elements you want to appear in the report. This information is contained in the form and will be ignored if included in the sentence.

3.4.1.1 AGAINST Data Entry-Form

The "AGAINST Data Entry-form" phrase allows you to produce a batch of Data Entry forms. For example, consider the form shown below:

```
          CORPORATE CONTACT LIST

DEPT. NUMBER ^^^

NAME ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

ADDRESS ^^^^^^^^^^^^^^^^^^^^^^^^^^

CITY & STATE ^^^^^^^^^^^^^^^^^^^^^^

ZIP ^^^^^
```

Suppose that this form is called EMP\ADDR and that it is associated with the EMPLOYEE file. The sentence "LIST EMPLOYEE AGAINST EMP\ADDR." would produce one EMP\ADDR form for each employee.

As described in Section 2, you can use Make An Inquiry to GET one record at a time and then PRINT the resulting form. However, the AGAINST phrase allows you to produce a batch of forms.

An "AGAINST Data Entry-form" phrase can also be used with the INSERT verb. The INSERT verb should be used when you want to produce a batch of preprinted forms.

For example, suppose you had EMP\ADDR forms specially printed with the text "NAME", "ADDRESS", and so on. After loading these forms in the printer, you would use the sentence "INSERT EMPLOYEE AGAINST EMP\ADDR." This would cause JUST ASK to fill in the data portion of the forms, as desired.

An "AGAINST Data Entry-form" phrase can be used together with the following phrases: BY, BY-DESCENDING, WITH, IF, OR, LETTING, and/or SWITCHING. These phrases are described in later subsections.

3.4.1.2 AGAINST Report-Form

Report forms provide a convenient way for you to set up a "formalized" report format. That is, you can define your own headings, control the spacing between elements, and so on.

Report forms are fully described in Section 4. Before referring to that section, however, it will help you to become familiar with the other phrases described in this section, especially BY, BY-DESCENDING, BREAK-ON, and PAGE-ON.

An "AGAINST report-form" phrase should only be used in a LIST sentence, such as "LIST EMPLOYEE AGAINST EMPREPORT."

An "AGAINST report-form" phrase can be used together with the following phrases: BY, BY-DESCENDING, WITH, IF, OR, BREAK-ON, PAGE-ON, LETTING, and/or SWITCHING.

As previously mentioned, an AGAINST phrase eliminates the need to specify the names of the elements you want included in the report. Report forms automatically contain summarizing instructions and thus eliminate the need for many other phrases. Since you can accomplish the functions of the following phrases by setting up a report form, these phrases should <u>not</u> be used in a sentence together with an "AGAINST report-form" phrase: TOTAL, TOTAL-ALL, AVERAGE, AVG-ALL, PERCENT, PER-ALL, EVALUATE, and EVAL-ALL.

3.4.2 BY AND BY-DESCENDING

If you want the records in a report to appear in a particular alphabetic or numerical order, include a BY or BY-DESCENDING phrase in your JUST ASK sentence.* For example, to list the entire employee file alphabetically by name, you could use the sentence "LIST THE EMPLOYEE FILE BY NAME".

3.4.2.1 Using BY Phrases

A BY phrase has the form "BY element-name" or "BY-DESCENDING element-name", where you supply the name of the element you want JUST ASK to use to arrange the records.

For example, in response to the sentence:

```
LIST THE EMPLOYEE FILE BY VACATION FOR NAME AND VACATION.
```

JUST ASK produces this report:

```
  09/29/82              02:48:35
LAST NAME, FIRST              VAC
MILTON, GEORGE                  8
PAYTON, JACK                   20
FOOTE, DONNA                   21
JACKSON, ANDREW                40
RICHARDS, DON                  40
KASBACH, AMY                   43
KRAMER, JOHN                   47
BENSON, JANICE                 48
CRAIG, PETER                   60
MARTIN, FRANK                  60
PETERS, DEBBIE                 60
ROGERS, CARL                   63
BLOOM, DICK                    66
MANNING, JOSEPH                67
PAGE, KITTY                    68
REGAN, DENNIS                  68
CROW, MAT                      68
JAMESON, MARY                  70
MARTIN, CARRY                  70
FLANAGAN, ALBERT               72
BORDON, JACK                   72
VANBUREN, ROGER                72
ZENITH, FRED                   74
CHESLEY, LOUIS                 74
CAMDEN, RANDAL                 80
ELLIOT, BILL                   80
```

Because the sentence includes a BY VACATION phrase, the records are listed in order of accumulated vacation leave. Because the sentence specifies the element names "NAME and VACATION", only those two elements are listed (in that order).

---

* Considerable processing is required to arrange records into a particular order. Therefore, JUST ASK will take longer to produce reports involving a BY or BY-DESCENDING phrase.

3.4.2.2 Priority Chart

BY arranges records in ascending order, while BY-DESCENDING arranges them in descending order. For numeric elements, of course, ascending order means lowest number value first, highest value last. For other elements, such as names, keys, or descriptions, ascending order means alphabetical order.

In some cases, a element contains letters together with numbers and perhaps even special characters. Suppose two item numbers were A6/93-AY and A6#42/05--which should be listed first? In such cases, JUST ASK follows the priority chart shown in Table 3-2. On this chart, "#" precedes "/", so A6#42/05 would be listed before A6/93-A4 if ascending order is used.

Table 3-2 Priority Chart

FIRST TO LIST		
!	@	a
"	A	b
#	B	c
$	C	d
%	D	e
&	E	f
'	F	g
(	G	h
)	H	i
*	I	j
+	J	k
,	K	l
-	L	m
.	M	n
/	N	o
0	O	p
1	P	q
2	Q	r
3	R	s
4	S	t
5	T	u
6	U	v
7	V	w
8	W	x
9	X	y
:	Y	z
;	Z	{
<	[	|
=	\	}
>	]	~
?	`	LAST TO LIST

When arranging records, JUST ASK may find a "tie". For example, suppose you list the EMPLOYEE file BY DEPT\NO. Ties will occur, because there are several employees in each department. In such cases, JUST ASK simply lists the tied records in whatever order they happen to occur in the file.

3.4.2.3 Multi-Level Sorting

Since several employees are in each department, you might like to list them alphabetically by name within each department. This would be an example of a "multi-level sort". That is, if records are tied on a first level (department number), you use a second-level value (name) to arrange them.

To establish a second sorting level, just add another BY phrase to the sentence. The order of the BY phrases is important. The first phrase names the first sorting level, the second phrase names the next level, and so on.* For example, in response to the sentence:

```
LIST EMPLOYEE BY DEPT\NO BY NAME FOR DEPT\NO AND NAME.
```

JUST ASK produces this report:

```
  09/29/82              02:49:51                                PAGE 001
DPT LAST NAME, FIRST
012 ELLIOT, BILL
012 MILTON, GEORGE
012 PAGE, KITTY
012 RICHARDS, DON
012 VANBUREN, ROGER
013 BENSON, JANICE
013 CAMDEN, RANDAL
013 CRAIG, PETER
013 FOOTE, DONNA
013 JACKSON, ANDREW
013 PAYTON, JACK
013 ZENITH, FRED
014 BLOOM, DICK
014 BORDON, JACK
014 CHESLEY, LOUIS
014 CROW, MAT
014 FLANAGAN, ALBERT
014 JAMESON, MARY
014 KASBACH, AMY
014 MANNING, JOSEPH
014 MARTIN, CARRY
014 MARTIN, FRANK
014 PETERS, DEBBIE
014 REGAN, DENNIS
014 ROGERS, CARL
L   KRAMER, JOHN
```

*You can establish as many levels as you like, but the total length of the sorted elements must not exceed 40 characters.

You can use BY and BY-DESCENDING phrases in the same sentence. For example, suppose you want to arrange departments in descending order but list the employees within each department in alphabetical order. To do this, use the phrases BY-DESCENDING DEPT\NO BY NAME. For example, "LIST THE EMPLOYEE BY-DESCENDING DEPT\NO BY NAME FOR DEPT\NO AND NAME." would produce this report:

```
  09/29/82              02:51:38
DPT LAST NAME, FIRST
L   KRAMER, JOHN
014 BLOOM, DICK
014 BORDON, JACK
014 CHESLEY, LOUIS
014 CROW, MAT
014 FLANAGAN, ALBERT
014 JAMESON, MARY
014 KASBACH, AMY
014 MANNING, JOSEPH
014 MARTIN, CARRY
014 MARTIN, FRANK
014 PETERS, DEBBIE
014 REGAN, DENNIS
014 ROGERS, CARL
013 BENSON, JANICE
013 CAMDEN, RANDAL
013 CRAIG, PETER
013 FOOTE, DONNA
013 JACKSON, ANDREW
013 PAYTON, JACK
013 ZENITH, FRED
012 ELLIOT, BILL
012 MILTON, GEORGE
012 PAGE, KITTY
012 RICHARDS, DON
012 VANBUREN, ROGER
```

3.4.3 WITH and IF

WITH and IF have exactly the same meaning for JUST ASK. They can be used interchangeably. WITH or IF phrases allow you to restrictively select particular records from a file.

A WITH or IF phrase provides a test. If a record passes the test, it is included in the report; otherwise, it is left out. If no WITH or IF phrase appears in a sentence, the report will include all records in the file.

3.4.3.1 Using WITH/IF

You can include a WITH/IF phrase in any type of JUST ASK sentence. For example, "LIST THE EMPLOYEE WITH VACATION = 72." would produce this report:

```
09/29/82          02:52:59                    PAGE 001

DP  3
VAC  72
LAST NAME, FIRST FLANAGAN, ALBERT
HIREDATE 04/04/76
SOC SEC# 475-98-0912
STREET ADDRESS 970 9TH
P W
S M
SIC  16
EMP# 2442
ZIP 90857
DPT 014
CITY, STATE VENICE, CA.
POSITION CLERK
RATE   1500.00
M M
PHONE NUMBER 213-786-0154
GR 03

DP  0
VAC  72
LAST NAME, FIRST BORDON, JACK
HIREDATE 08/14/75
SOC SEC# 374-09-1248
STREET ADDRESS 47859 ALLEN RD.
P V
S M
SIC  32
EMP# 0043
ZIP 90543
DPT 014
CITY, STATE TORRANCE, CA.
POSITION SALES
RATE   2100.00
M S
PHONE NUMBER 213-657-0978
GR 05

DP  2
VAC  72
LAST NAME, FIRST VANBUREN, ROGER
HIREDATE 08/31/78
SOC SEC# 648-92-9107
STREET ADDRESS 876 N. ZODIAC
P R
S M
SIC  24
EMP# 3010
ZIP 90142
DPT 012
CITY, STATE WESTCHESTER, CA.
POSITION PRODUCTION
RATE   1600.00
M M
PHONE NUMBER 213-576-9364
GR 03
```

In response to "COUNT EMPLOYEE WITH SICK = 16." JUST ASK would produce this report:

```
NUMBER OF RECORDS PASSED: 26
NUMBER OF RECORDS COUNTED: 5
```

because there are 5 employees with 16 hours of sick leave.

As another example, "SUM THE EMPLOYEE FILE IF SICK = 16 FOR VACATION." produces this report:

```
     09/29/82                    02:55:45
NAME                  TOTAL
VACATION              337
```

Using the sample file, the 5 employees who have 16 hours of sick leave have 337 total hours of vacation.

The preceding examples have each tested whether a particular element is equal to a particular number. However, many other types of test are possible.

Each type of test is called a relation. Table 3-3 summarizes the relations available.

Table 3-3 Relations

SYMBOL	ALTERNATE SYMBOL	MEANING
=	EQ	IS EQUAL TO
#	NE	IS NOT EQUAL TO
<	LT	IS LESS THAN
<=	LE	IS LESS THAN OR EQUAL TO
>	GT	IS GREATER THAN
>=	GE	IS GREATER THAN OR EQUAL TO
[]	CO	CONTAINS
][	NC	DOES NOT CONTAIN

A symbol and its alternate symbol, such as # and NE, have exactly the same meaning and can be used interchangeably. These relations are not limited to testing elements that are numeric. They can also be used to test "alpha" elements, such as names, descriptions, or addresses. In fact, two of the relations--[] (contains) and][(does not contain)--can only be used with elements that are not numeric.

The rules for testing alpha and numeric elements are presented separately in the following two subsections.

3.4.3.2 Numeric Relations

When a numeric element is defined, the "format" of the element is specified. The format indicates where the decimal point is placed, how negative numbers are indicated, and so on. Some sample formats are -XXXX.XX, XXXX.XXX-, and -****X.XX.

When you compare a numeric element to a particular value, such as WITH VACATION > 24, IF RATE = 7.50, and so on, you must use the same number of decimal places in the number as there are in the format of the element.

Suppose UNITS has a format -XXXXXX, while SALES has a format -XXXXXX.XX. To test whether UNITS is more than 500, use WITH UNITS > 500, but to test whether SALES is more than 500, you must use WITH SALES > 500.00.

If you do not know the format of an element, use the "List File Elements" utility, which provides a detailed listing of all the elements in a file, including the format of the numeric elements (see Appendix B).

With numeric elements, you can form expressions to use in WITH/IF phrases. For example:

WITH VACATION + SICK > 40 selects employees whose total vacation and sick leave is more than 40.

IF ON\HAND < MINIMUM + 50 selects inventory items that are less than 50 above the minimum stock level.

Expressions may contain numeric elements (not alpha elements), numbers, and the arithmetic operations +, -, * (multiplication) and / (division). Expressions are evaluated working strictly left to right. Negative numbers in an expression may be written with a leading minus sign only. No commas are allowed.

To use expressions correctly, you must understand how JUST ASK handles numbers. Internally, all numbers are stored as integers (no decimal points). For example, if PRICE has a format of -XXXXXX.XX, a value of 32.50 is actually stored as 3250.

Furthermore, if you include any numbers in an expression, the decimal points are completely ignored. Thus, 1.1 and 11 both represent 11; while 1.10 and 11.0 both represent 110. Decimal points should therefore be used only where they clarify the meaning of a phrase.

Consider again the example of UNITS with format -XXXXXX and SALES with format -XXXXXX.XX. Five hundred units sold year-to-date would be stored as 500, but $500 sales would be stored as 50000. Thus, as mentioned before, you could use the phrase WITH UNITS > 500 to test whether UNITS is more than 500, but you must use the phrase WITH SALES > 500.00 to test whether SALES exceeds $500. Since decimal points have no effect, you could as well use WITH SALES > 50000, but the meaning is clearer if you do use the decimal point.

Suppose you want to test whether PRICE increased by 10% is greater than $25, where PRICE has format XXXXXX.XX. The usual way to increase a value by 10% is to multiply by 1.10. However, in a JUST ASK expression 1.10 will be read as 110.

Therefore, the desired test can be accomplished using:

```
WITH PRICE * 110 / 100 > 25.00
```

Equivalent alternatives would be:

```
WITH PRICE * 1.10 > 25.0000

WITH PRICE * 11 / 10 > 25.00

WITH PRICE * 11 > 25000
```

and so on.

As a second example, suppose COST has format XXXXXX.XXX while PRICE has XXXXXX.XX. Suppose further that you want to test whether PRICE - COST exceeds two dollars.

You cannot use PRICE - COST directly in the expression. For example, a PRICE of eight dollars is stored as 800 while a COST of six dollars is stored as 6000. In this case, JUST ASK would evaluate PRICE - COST as -5200.

The solution is to multiply PRICE by 10 or divide COST by 10 before subtracting. Thus you could use the phrases:

```
IF PRICE * 10 - COST > 2.000
or
IF COST / 10 > 2.00 + PRICE
```

Notice that the way you express two dollars must agree with the format of the expression you use.

3.4.3.3 Non-Numeric Relations

Not all data is numeric. For example, some elements contain names, addresses, descriptions, or non-arithmetic numbers such as phone or part numbers which are not used for computing. Such elements are called "non-numeric" or "alpha" (as in alphabetic).

You can use alpha elements in WITH/IF phrases. For example, the sentence LIST EMPLOYEE WITH NAME = "Miller". selects employees with the last name Miller.

Notice the quotation marks. You must place quotation marks around any particular alpha value. For example, consider these phrases:

```
WITH NAME = "Morris"
WITH VACATION = 24
```

Morris is an alpha value and, therefore, is enclosed in quotes; but 24, a numeric value, is not.

Notice that a value in quotes can include lower case letters. This is an exception to the rule that a JUST ASK sentence must use only capital letters. Remember, though, that JUST ASK looks for an exact match. That is, using WITH NAME = "Morris", JUST ASK selects only names listed as Morris, not as MORRIS.

Be careful not to try to compare alpha values and numeric values in the same WITH/IF phrase. For example, you cannot use these phrases:

```
WITH NAME = 100
WITH VACATION = "FIVE"
```

NAME is an alpha element and cannot be compared with the number 100. VACATION is a numeric element and cannot be compared with the alpha value FIVE.

You can also use the relations >, >=, <, and <= with alpha elements. You might wonder how JUST ASK decides whether one alpha value is greater or less than another. For example, is "Miller" greater or less than "Morris"?

The answer is that JUST ASK considers one alpha value to be greater than another if it comes later alphabetically or is identical but contains more characters than the other. For example, these are true statements:

```
"Miller" <  "Morris"
"Miller" >= "Mellon"
"Miller" >  "Mill"
"Miller" <= "Millerton"
```

In cases where letters, numbers, and special characters are mixed, it may not be obvious which value is greater. For example, suppose two item numbers are HG/93-AY and HG-42/05. Which value is greater?

In such cases, JUST ASK follows the same priority chart it uses for BY phrases. This chart is shown in Table 3.2. Using this chart, "-" precedes "/", so HG/93-AY is greater than HG-42/05.

In addition to the standard relations (=, #, <, <=, >, and >=), there are two special relations that can only be used with alpha fields. These relations--[] (contains) and][(does not contain)--test whether an alpha field contains a particular string of characters.

For example, the phrase IF NAME [] "Chris" would select employees with names that contain "Chris", such as Chris, Christopher, or Christine. The phrase IF CODE]["BX" would select records that do not contain a "BX" in the CODE field. That is, codes such as B2X, XB1, or XXB would be selected (do not contain "BX"), while codes such as BX1, 2BX, or XBX would be rejected (do contain "BX").

Date and time elements are treated like non-numeric elements, so you must use quote marks for them in WITH\IF phrases. For example, WITH HIREDATE > "01/01/82" or IF STARTIME = "08:00".

Suppose that you want to select all the records in a file that have "900" zip codes. That is, the first three digits of the zip code should be 900, while the last two digits could be anything.

You could NOT use IF ZIP [] "900" because this would select zip codes containing 900 in any position, such as 02900 or 19005. There is a special feature you can use, however.* The phrase you should use is IF ZIP [] "900^^".

---

*As an alternative to the special "^" feature discussed here, you could use "substrings", as described in Section 7.

The "^" can only be used with [] and][phrases. It acts as a placeholder. Thus the phrase IF ZIP [] "900^^" selects zip codes containing the sequence of characters 9-0-0-any character-any character.

As a second example, you could use this feature to select all records with phone numbers having a given prefix. For example, suppose phone numbers are entered in the form XXX-YYY-ZZZZ. To select phone numbers with a 674 prefix, use the phrase WITH PHONE [] "^^^-674-^^^^".

3.4.3.4 Multiple WITH/IF Phrases

You can include several WITH/IF tests in one JUST ASK sentence. Before you write the sentence, you must decide whether you want to select:

1) only those records that meet all the tests, or

2) any record that satisfies at least one test.

As an example of the first case, suppose you want to select employees who have more than 40 hours each of vacation and sick leave. This requires two WITH/IF phrases:

```
LIST EMPLOYEE WITH VACATION > 40 WITH SICK > 40.
```

Since two separate WITH phrases have been used, JUST ASK will select only those employees who pass both tests. That is, an employee must have over 40 hours of vacation and more than 40 hours of sick leave to be selected.

On the other hand, suppose you want to select any employee who has more than 40 hours of either type of leave. That is, an employee should have more than 40 hours of vacation, or more than 40 hours of sick leave, or both. This requires the use of the reserved word OR:

```
LIST EMPLOYEE WITH VACATION > 40 OR SICK > 40.
```

In this case, JUST ASK will select any employee who satisfies at least one of these conditions.

When joining tests with OR, you use the reserved word WITH (or IF) only once. That is, you write WITH VACATION > 40 OR SICK > 40, <u>not</u> WITH VACATION > 40 OR WITH SICK > 40.

Also, notice that each test must be written out in full. That is, you write WITH VACATION > 40 OR SICK > 40, <u>not</u> WITH VACATION OR SICK > 40.

Here is a summary of multiple WITH/IF tests:

1) To select only those records that meet all the tests, use separate WITH/IF phrases:

```
WITH test one WITH test two...
```

2) To select any record that satisfies at least one test, use only one WITH phrase and join the tests with OR:

```
WITH test one OR test two...
```

3.4.4 OR

OR is a JUST ASK reserved word used only for multiple WITH/IF tests. Refer to the preceding subsection for details.

3.4.5 BREAK-ON

As discussed in Subsection 3.4.2, you can use a BY or BY-DESCENDING phrase to arrange the records of a report into a certain order. To further improve the appearance of such a report, you can add a BREAK-ON phrase. BREAK-ON causes the report to be broken into groups of similar records.

First, consider the following report, which would be produced using the sentence "LIST EMPLOYEE BY DEPT\NO FOR DEPT\NO, NAME, AND POSITION."

```
 09/29/82-            00:01:16                                    PAGE 001
DPT LAST NAME, FIRST                POSITION
012 PAGE, KITTY                     CLERK
012 ELLIOT, BILL                    MANAGER
012 VANBUREN, ROGER                 PRODUCTION
012 MILTON, GEORGE                  SALES
012 RICHARDS, DON                   SALES
013 CAMDEN, RANDAL                  JANITOR
013 PAYTON, JACK                    CLERK
013 JACKSON, ANDREW                 CLERK
013 ZENITH, FRED                    SALES
013 BENSON, JANICE                  SECRETARY
013 FOOTE, DONNA                    DRAFTSMAN
013 CRAIG, PETER                    CLERK
014 ROGERS, CARL                    DRAFTSMAN
014 REGAN, DENNIS                   PRODUCTION
014 FLANAGAN, ALBERT                CLERK
014 MANNING, JOSEPH                 SALES MANAGER
014 BORDON, JACK                    SALES
014 JAMESON, MARY                   TYPEST
014 KRAMER, JOHN                    SALES
014 MARTIN, CARRY                   CLERK
014 KASBACH, AMY                    MANAGER
014 MARTIN, FRANK                   DISTRICT MANAGER
014 PETERS, DEBBIE                  SALES
014 CHESLEY, LOUIS                  CLERK
014 CROW, MAT                       SALES
014 BLOOM, DICK                     SALES
```

Next, observe the effect of adding a BREAK-ON phrase. The sentence "LIST EMPLOYEE BY DEPT\NO BREAK-ON DEPT\NO FOR DEPT\NO, NAME, AND POSITION." would produce this report:

```
 09/29/82-            00:05:45                                    PAGE 001
DPT LAST NAME, FIRST                POSITION

    012
012 PAGE, KITTY                     CLERK
012 ELLIOT, BILL                    MANAGER
012 VANBUREN, ROGER                 PRODUCTION
012 MILTON, GEORGE                  SALES
012 RICHARDS, DON                   SALES

    013
013 CAMDEN, RANDAL                  JANITOR
013 PAYTON, JACK                    CLERK
013 JACKSON, ANDREW                 CLERK
013 ZENITH, FRED                    SALES
013 BENSON, JANICE                  SECRETARY
013 FOOTE, DONNA                    DRAFTSMAN
013 CRAIG, PETER                    CLERK

    014
014 ROGERS, CARL                    DRAFTSMAN
014 REGAN, DENNIS                   PRODUCTION
014 FLANAGAN, ALBERT                CLERK
014 MANNING, JOSEPH                 SALES MANAGER
014 BORDON, JACK                    SALES
014 JAMESON, MARY                   TYPEST
014 KRAMER, JOHN                    SALES
014 MARTIN, CARRY                   CLERK
014 KASBACH, AMY                    MANAGER
014 MARTIN, FRANK                   DISTRICT MANAGER
014 PETERS, DEBBIE                  SALES
014 CHESLEY, LOUIS                  CLERK
014 CROW, MAT                       SALES
014 BLOOM, DICK                     SALES
```

The BREAK-ON DEPT\NO phrase causes JUST ASK to insert a "break" line whenever there is a change in department number. Used together with the BY DEPT\NO phrase, this has the effect of grouping records by department number.

The break line always contains the common BREAK-ON element name or value for the group (in this case, the department number). Therefore, it is not really necessary to repeat the department number on each line. For example, the sentence "LIST EMPLOYEE BY DEPT\NO BREAK-ON DEPT\NO FOR NAME AND POSITION." would produce this report:

```
  09/29/82              00:14:59
LAST NAME, FIRST                POSITION

    012
PAGE, KITTY                     CLERK
ELLIOT, BILL                    MANAGER
VANBUREN, ROGER                 PRODUCTION
MILTON, GEORGE                  SALES
RICHARDS, DON                   SALES

    013
CAMDEN, RANDAL                  JANITOR
PAYTON, JACK                    CLERK
JACKSON, ANDREW                 CLERK
ZENITH, FRED                    SALES
BENSON, JANICE                  SECRETARY
FOOTE, DONNA                    DRAFTSMAN
CRAIG, PETER                    CLERK

    014
ROGERS, CARL                    DRAFTSMAN
REGAN, DENNIS                   PRODUCTION
FLANAGAN, ALBERT                CLERK
MANNING, JOSEPH                 SALES MANAGER
BORDON, JACK                    SALES
JAMESON, MARY                   TYPEST
MARTIN, CARRY                   CLERK
KASBACH, AMY                    MANAGER
MARTIN, FRANK                   DISTRICT MANAGER
PETERS, DEBBIE                  SALES
CHESLEY, LOUIS                  CLERK
CROW, MAT                       SALES
BLOOM, DICK                     SALES
```

A BREAK-ON phrase can only be used with the verbs LIST, INSERT, SUM, CHART, or ANALYZE. The phrase should have the form:

```
BREAK-ON element-name
```

where you supply the element name. A "BY Element-X" or "BY-DESCENDING Element-X" phrase should accompany any "BREAK-ON Element-X" phrase. You must use the same element name for both phrases, just as in the previous example:

```
"BY DEPT\NO BREAK-ON DEPT\NO."
```

The BY phrase arranges the records, so that related records appear together; the BREAK-ON phrase then emphasizes this grouping by inserting a break line between each group.

Multiple BREAK-ON phrases may be used in a sentence. For example, the sentence "LIST EMPLOYEE BY DEPT\NO BY GRADE BY NAME BREAK-ON DEPT\NO BREAK-ON GRADE FOR NAME." would produce this report:

```
  09/29/82                00:18:05
LAST NAME, FIRST

    012     02
PAGE, KITTY

    012     03
VANBUREN, ROGER

    012     05
ELLIOT, BILL
MILTON, GEORGE
RICHARDS, DON

    013     01
CRAIG, PETER
JACKSON, ANDREW
PAYTON, JACK

    013     02
CAMDEN, RANDAL

    013     03
FOOTE, DONNA

    013     05
BENSON, JANICE
ZENITH, FRED

    014     01
MARTIN, CARRY

    014     02
CHESLEY, LOUIS
JAMESON, MARY

    014     03
BLOOM, DICK
CROW, MAT
FLANAGAN, ALBERT

    014     04
REGAN, DENNIS
ROGERS, CARL

    014     05
BORDON, JACK
KASBACH, AMY
PETERS, DEBBIE

    014     06
MANNING, JOSEPH

    014     07
MARTIN, FRANK
```

The order of the BREAK-ON phrases is important. The first phrase in the sentence names the highest break level, the second names a subordinate break level, and so on. Therefore, subordinated BREAK-ON phrases will include all information appropriate to the BREAK-ON category of an earlier BREAK-ON phrase. In the previous example, employees are grouped by department and then by grade within each department. Each BREAK-ON phrase should have a matching BY or BY-DESCENDING phrase, with the BY phrases arranged in the same order as the BREAK-ON phrases.

As discussed in the following subsections, JUST ASK can also produce statistics for each BREAK-ON group--group totals, averages, and so on. Please note, however, that these statistics can be produced for a maximum of three break levels in a given report.

The number and order of group totals that appear at any one location in the report is dependent upon the level of break that has occurred. In the previous example one total line appears when the "GRADE" changes. Two appear when the "DEPT\NO" changes; that is, first the current "GRADE" is totaled, then the current department is totaled. Total lines always appear in this reverse order.

3.4.6 PAGE-ON

PAGE-ON is the same as BREAK-ON, except that each PAGE-ON group starts at the top of a new page. For example, "LIST EMPLOYEE BY DEPT\NO BY GRADE BY NAME PAGE-ON DEPT\NO BREAK-ON GRADE FOR NAME." would produce this report:

```
  09/29/82                00:24:37                                PAGE 001
LAST NAME, FIRST

    012     02
PAGE, KITTY

    012     03
VANBUREN, ROGER

    012     05
ELLIOT, BILL
MILTON, GEORGE
RICHARDS, DON
```

Then on another page, it continues:

```
  09/29/82                00:24:41                                PAGE 002
LAST NAME, FIRST

    013     01
CRAIG, PETER
JACKSON, ANDREW
PAYTON, JACK

    013     02
CAMDEN, RANDAL

    013     03
FOOTE, DONNA

    013     05
BENSON, JANICE
ZENITH, FRED
```

3.4.7 RESTART-ON

RESTART-ON is the same as PAGE-ON except that each RESTART-ON group starts at the top of a new page, numbered as 1. For example, "LIST EMPLOYEE BY DEPT\NO BY GRADE BY NAME RESTART-ON DEPT\NO BREAK-ON GRADE FOR NAME" would produce this report:

```
  09/29/82              02:52:03                                    PAGE 001
LAST NAME, FIRST

    012     02
PAGE, KITTY

    012     03
VANBUREN, ROGER

    012     05
ELLIOT, BILL
MILTON, GEORGE
RICHARDS, DON
```

3.4.8 TOTAL AND TOTAL-ALL

By adding a TOTAL phrase to a LIST sentence, you can have a column total included at the end of a report. For example, "LIST EMPLOYEE FOR NAME AND TOTAL VACATION." produces this report:

```
  09/29/82              00:00:29                                    PAGE 001
VAC
 63
 80
 68
 80
 20
 40
 68
 72
 67
 72
 74
 70
 48
 47
 21
 60
 70
 72
 43
  8
 60
 40
 60
 74
 68
 66
---
511
```

A TOTAL phrase has the form:

```
TOTAL element-name
```

where you supply the name of the element you want to total. The total is automatically underlined. Notice that the TOTAL element is automatically included on the report; that is, you do <u>not</u> have to repeat the element name in the sentence. For example, you use the sentence:

```
LIST EMPLOYEE FOR NAME AND TOTAL VACATION.
```

rather than:

```
LIST EMPLOYEE FOR NAME AND VACATION, AND TOTAL VACATION.
```

The columns of the report appear in the same order as the field names in the sentence, so that "LIST EMPLOYEE TOTAL VACATION, AND NAME." produces this report:

```
  09/29/82                 00:01:15
VAC LAST NAME, FIRST
 63 ROGERS, CARL
 80 CAMDEN, RANDAL
 68 PAGE, KITTY
 80 ELLIOT, BILL
 20 PAYTON, JACK
 40 JACKSON, ANDREW
 68 REGAN, DENNIS
 72 FLANAGAN, ALBERT
 67 MANNING, JOSEPH
 72 BORDON, JACK
 74 ZENITH, FRED
 70 JAMESON, MARY
 48 BENSON, JANICE
 47 KRAMER, JOHN
 21 FOOTE, DONNA
 60 CRAIG, PETER
 70 MARTIN, CARRY
 72 VANBUREN, ROGER
 43 KASBACH, AMY
  8 MILTON, GEORGE
 60 MARTIN, FRANK
 40 RICHARDS, DON
 60 PETERS, DEBBIE
 74 CHESLEY, LOUIS
 68 CROW, MAT
 66 BLOOM, DICK
---
511
```

TOTAL can only be used in a LIST sentence. Also, be sure you only TOTAL numeric elements. You cannot TOTAL names, addresses, descriptions, and so on. For example, entering the sentence "LIST EMPLOYEE TOTAL NAME." would cause the following error message to display:

```
SORRY, NON-NUMERIC ELEMENT IN TOTAL/AVERAGE/PERCENT PHRASE.
```

Notice that each TOTAL phrase applies to only one element. For example, if you use the phrase TOTAL VACATION AND SICK, only the VACATION element is totaled. This allows you to total selected elements on a report. The sentence "LIST EMPLOYEE BY NAME FOR NAME DEPEND TOTAL VACATION TOTAL SICK RATE." would produce totals for the VACATION and SICK elements, but not for the DEPEND or RATE elements.

If you do want to total all the numeric elements on a report, you can use TOTAL-ALL. TOTAL-ALL produces totals for all the numeric elements listed after TOTAL-ALL in the sentence. Non-numeric elements can also be included in a TOTAL-ALL sentence; they will be listed on the report but not totaled. For example, "LIST EMPLOYEE BY NAME TOTAL-ALL NAME, VACATION, SICK, AND PHONE." produces this report:

```
  09/29/82              00:03:06                          PAGE 001
LAST NAME, FIRST              VAC SIC PHONE NUMBER
BENSON, JANICE                 48  25 345-789-0367
BLOOM, DICK                    66  24 213-142-8765
BORDON, JACK                   72  32 213-657-0978
CAMDEN, RANDAL                 80  32 213-485-9015
CHESLEY, LOUIS                 74   8 213-756-9378
CRAIG, PETER                   60  12 213-578-0987
CROW, MAT                      68  24 213-465-9162
ELLIOT, BILL                   80  20 213-465-1329
FLANAGAN, ALBERT               72  16 213-786-0154
FOOTE, DONNA                   21  24 213-857-0564
JACKSON, ANDREW                40  20 213-657-9746
JAMESON, MARY                  70   8 213-756-6452
KASBACH, AMY                   43  20 213-758-9374
KRAMER, JOHN                   47   8 213-587-9327
MANNING, JOSEPH                67  24 213-561-8742
MARTIN, CARRY                  70  24 213-758-0123
MARTIN, FRANK                  60  12 213-756-8675
MILTON, GEORGE                  8  24 213-325-9684
PAGE, KITTY                    68   8 213-586-0982
PAYTON, JACK                   20  18 213-657-8763
PETERS, DEBBIE                 60  16 213-576-8750
REGAN, DENNIS                  68  16 213-756-1329
RICHARDS, DON                  40   8 213-867-8674
ROGERS, CARL                   63  16 213-678-9812
VANBUREN, ROGER                72  24 213-576-9364
ZENITH, FRED                   74  16 213-546-1324
                              --- ---
                              511 479
```

If you use BREAK-ON, PAGE-ON, or RESTART-ON in a sentence, records are grouped on the report (see Subsection 3.4.5). If you use TOTAL or TOTAL-ALL in a sentence with BREAK-ON, PAGE-ON or RESTART-ON, JUST ASK gives subtotals for each of the groups as well as the usual grand total at the end of the report. The difference in this case is that the grand total will appear on a last separate page if PAGE-ON or RESTART-ON are used. However, it will appear following the last subtotal if only BREAK-ONs are used. For example, "LIST EMPLOYEE BY DEPT\NO BREAK-ON DEPT\NO FOR NAME AND TOTAL VACATION." produces this report:

```
  09/29/82              00:55:19                                PAGE 001
LAST NAME, FIRST              VAC

    012
PAGE, KITTY                    68
ELLIOT, BILL                   80
VANBUREN, ROGER                72
MILTON, GEORGE                  8
RICHARDS, DON                  40
                              ---
                              268

    013
CAMDEN, RANDAL                 80
PAYTON, JACK                   20
JACKSON, ANDREW                40
ZENITH, FRED                   74
BENSON, JANICE                 48
FOOTE, DONNA                   21
CRAIG, PETER                   60
                              ---
                              343

    014
ROGERS, CARL                   63
REGAN, DENNIS                  68
FLANAGAN, ALBERT               72
MANNING, JOSEPH                67
BORDON, JACK                   72
JAMESON, MARY                  70
KRAMER, JOHN                   47
MARTIN, CARRY                  70
KASBACH, AMY                   43
MARTIN, FRANK                  60
PETERS, DEBBIE                 60
CHESLEY, LOUIS                 74
CROW, MAT                      68
BLOOM, DICK                    66
                              ---
                              900
                              ---
                              511
```

3.4.9 AVERAGE AND AVG-ALL

AVERAGE is used in the same way as TOTAL, but it calculates the average value of an element rather than the total. AVG-ALL corresponds to TOTAL-ALL, producing averages for all the numeric elements listed after AVG-ALL in the sentence. For example, "LIST EMPLOYEE FOR NAME AND AVERAGE VACATION." produces this report:

```
  09/29/82            00:06:53                                    PAGE 001
LAST NAME, FIRST            VAC
ROGERS, CARL                 63
CAMDEN, RANDAL               80
PAGE, KITTY                  68
ELLIOT, BILL                 80
PAYTON, JACK                 20
JACKSON, ANDREW              40
REGAN, DENNIS                68
FLANAGAN, ALBERT             72
MANNING, JOSEPH              67
BORDON, JACK                 72
ZENITH, FRED                 74
JAMESON, MARY                70
BENSON, JANICE               48
KRAMER, JOHN                 47
FOOTE, DONNA                 21
CRAIG, PETER                 60
MARTIN, CARRY                70
VANBUREN, ROGER              72
KASBACH, AMY                 43
MILTON, GEORGE                8
MARTIN, FRANK                60
RICHARDS, DON                40
PETERS, DEBBIE               60
CHESLEY, LOUIS               74
CROW, MAT                    68
BLOOM, DICK                  66
                            ---
                             58
```

AVERAGE follows the same rules as TOTAL:

1) the phrase has the form AVERAGE element-name, where you supply the name of the element you want to average;

2) the AVERAGE element is automatically included on the report in the same relative position as it appears in the sentence;

3) if you want to average selected elements, use a separate AVERAGE phrase for each one;

4) if you want to average all the numeric elements in the sentence, use AVG-ALL;

5) AVERAGE and AVG-ALL can only be used in a LIST sentence, and you can only average numeric fields;

6) if you use BREAK-ON, PAGE-ON, or RESTART-ON in a sentence with AVERAGE or AVG-ALL, JUST ASK gives the average for each group as well as the grand average for the report.

As another example of AVERAGE, the sentence "LIST EMPLOYEE BY DEPT\NO BY NAME BREAK-ON DEPT\NO AVG-ALL NAME, VACATION, AND SICK." produces this report:

```
  09/29/82                00:56:51                                PAGE 001
LAST NAME, FIRST                  VAC SIC

    012
ELLIOT, BILL                       80  20
MILTON, GEORGE                      8  24
PAGE, KITTY                        68   8
RICHARDS, DON                      40   8
VANBUREN, ROGER                    72  24
                                  --- ---
                                   53  16

    013
BENSON, JANICE                     48  25
CAMDEN, RANDAL                     80  32
CRAIG, PETER                       60  12
FOOTE, DONNA                       21  24
JACKSON, ANDREW                    40  20
PAYTON, JACK                       20  18
ZENITH, FRED                       74  16
                                  --- ---
                                   49  21

    014
BLOOM, DICK                        66  24
BORDON, JACK                       72  32
CHESLEY, LOUIS                     74   8
CROW, MAT                          68  24
FLANAGAN, ALBERT                   72  16
JAMESON, MARY                      70   8
KASBACH, AMY                       43  20
KRAMER, JOHN                       47   8
MANNING, JOSEPH                    67  24
MARTIN, CARRY                      70  24
MARTIN, FRANK                      60  12
PETERS, DEBBIE                     60  16
REGAN, DENNIS                      68  16
ROGERS, CARL                       63  16
                                  --- ---
                                   64  17
                                  --- ---
                                   58  18
```

3.4.10 PERCENT AND PER-ALL

PERCENT and PER-ALL follow the same rules as AVERAGE/AVG-ALL and TOTAL/TOTAL-ALL (see the previous two subsections), but they should always be used with BREAK-ON, PAGE-ON, or RESTART-ON so that the report is broken into groups. PERCENT causes JUST ASK to express each group total as a percentage of the corresponding report total.*

For example, "LIST EMPLOYEE BY DEPT\NO BY NAME BREAK-ON DEPT\NO PER-ALL NAME, VACATION, AND SICK." produces this report:

```
  09/29/82            00:58:24                                    PAGE 001
LAST NAME, FIRST             VAC SIC

    012
ELLIOT, BILL                  80  20
MILTON, GEORGE                 8  24
PAGE, KITTY                   68   8
RICHARDS, DON                 40   8
VANBUREN, ROGER               72  24
                             --- ---
                              17 % 17 %

    013
BENSON, JANICE                48  25
CAMDEN, RANDAL                80  32
CRAIG, PETER                  60  12
FOOTE, DONNA                  21  24
JACKSON, ANDREW               40  20
PAYTON, JACK                  20  18
ZENITH, FRED                  74  16
                             --- ---
                              22 % 30 %

    014
BLOOM, DICK                   66  24
BORDON, JACK                  72  32
CHESLEY, LOUIS                74   8
CROW, MAT                     68  24
FLANAGAN, ALBERT              72  16
JAMESON, MARY                 70   8
KASBACH, AMY                  43  20
KRAMER, JOHN                  47   8
MANNING, JOSEPH               67  24
MARTIN, CARRY                 70  24
MARTIN, FRANK                 60  12
PETERS, DEBBIE                60  16
REGAN, DENNIS                 68  16
ROGERS, CARL                  63  16
                             --- ---
                              59 % 51 %
                             --- ---
                             100 %100 %
```

Of course, the final percentage on the report is the report total as a percentage of itself, so it is always 100.

---

* Sentences which contain PERCENT or PER-ALL phrases take longer to execute because the grand total must be determined before the percentages can be calculated.

3.4.11 EVALUATE AND EVAL-ALL

If you want the TOTAL, AVERAGE, and PERCENT values for an element, you can use an EVALUATE phrase. A single "EVALUATE element-X" phrase has the combined effect of TOTAL element-X, AVERAGE element-X, and PERCENT element-X. For example, the sentence "LIST EMPLOYEE BY DEPT\NO BY NAME BREAK-ON DEPT\NO EVAL-ALL NAME, VACATION, AND SICK." produces this report:

```
  09/29/82                01:00:22                                PAGE 001
LAST NAME, FIRST                VAC SIC

    012
ELLIOT, BILL                     80  20
MILTON, GEORGE                    8  24
PAGE, KITTY                      68   8
RICHARDS, DON                    40   8
VANBUREN, ROGER                  72  24
                                --- ---
                                268  84
                                 53  16
                                 17 % 17 %

    013
BENSON, JANICE                   48  25
CAMDEN, RANDAL                   80  32
CRAIG, PETER                     60  12
FOOTE, DONNA                     21  24
JACKSON, ANDREW                  40  20
PAYTON, JACK                     20  18
ZENITH, FRED                     74  16
                                --- ---
                                343 147
                                 49  21
                                 22 % 30 %

    014
BLOOM, DICK                      66  24
BORDON, JACK                     72  32
CHESLEY, LOUIS                   74   8
CROW, MAT                        68  24
FLANAGAN, ALBERT                 72  16
JAMESON, MARY                    70   8
KASBACH, AMY                     43  20
KRAMER, JOHN                     47   8
MANNING, JOSEPH                  67  24
MARTIN, CARRY                    70  24
MARTIN, FRANK                    60  12
PETERS, DEBBIE                   60  16
REGAN, DENNIS                    68  16
ROGERS, CARL                     63  16
                                --- ---
                                900 248
                                 64  17
                                 59 % 51 %
                                --- ---
                                511 479
                                 58  18
                                100 %100 %
```

EVALUATE and EVAL-ALL follow the same rules as TOTAL/TOTAL-ALL, AVERAGE/AVG-ALL, and PERCENT/PER-ALL. Refer to Subsection 3.4.8 for a list of rules.

Sentences which contain EVALUATE or EVAL-ALL phrases take longer to execute because the grand total must be determined before the percentage values can be calculated.

3.4.12 LETTING

LETTING is a very powerful tool for financial modeling and forecasting. It is used to adjust the value of an element. With CREATE or MERGE, LETTING causes the value of the specified element to be changed in the output file. For example, the sentence "CREATE PRODUCT IN NEW\PROD LETTING PRICE = PRICE + 2.00." would create a new file in which all prices were increased by $2.00.

With other verbs, LETTING adjusts the value of the element on the report, but no file is affected. Thus it can be used for forecasting or "WHAT-IF" analysis. For example, the sentence "LIST PRODUCT FOR PROD\NO, DESCRIPT, AND PRICE, LETTING PRICE = PRICE + 2.00." would print a report showing all prices increased by $2.00. "SUM THE EMPLOYEE FOR SICK LETTING SICK = SICK * 110 / 100." would calculate the total sick leave for all employees that would result if each employee's sick leave were increased by 10%.

The general form for a LETTING phrase is:

```
LETTING element-name = expression
```

Expressions are discussed in Subsection 3.4.3.2.

If a LETTING phrase is used in the same sentence as a WITH/IF phrase, the WITH/IF condition is tested <u>before</u> the LETTING phrase adjusts the element value. For example, suppose a sentence includes the phrases "WITH PRICE > 10.00 LETTING PRICE = PRICE + 2.00". Would an item with a current price of $9.00 be included on the report? The answer is no, because each price is compared with 10.00 <u>before</u> it is increased by $2.00.

3.4.13 SWITCHING

SWITCHING is used along with CREATE and MERGE to interchange the special position of two elements for an output file. With other verbs, however, SWITCHING interchanges the values of two elements on the report, without affecting any file.

For example, "CREATE PRODUCT IN NEW\PROD SWITCHING DESCRIPT AND PRICE." would create a new file with exactly the same information as the original file. However, the position of the elements DESCRIPT and PRICE would be reversed in each record in the new file.

You can use this feature to create a file with a different key element. For example, "CREATE EMPLOYEE IN NEW\EMP SWITCHING EMP\NO and SS\NO." would create a file that could be accessed by social security number.

With other verbs (<u>not</u> CREATE or MERGE) SWITCHING interchanges the values of two elements on the report. It does not change the headings or format of the report, just the values. As noted earlier, the contents of the file are not affected.

If more than one SWITCHING phrase appears in a sentence, the elements are switched in the order in which the phrases appear. For example, consider the effect of the sentence "CREATE EMPLOYEE IN NEW\EMP SWITCHING RATE AND VACATION SWITCHING VACATION AND SICK." Suppose the original element order is RATE, VACATION, SICK. After SWITCHING RATE AND VACATION, the order is VACATION, RATE, SICK. Then, after SWITCHING VACATION AND SICK, the final order is VACATION, SICK, RATE.

If a SWITCHING phrase is used in the same sentence as a WITH/IF phrase, the WITH/IF condition is tested <u>before</u> any SWITCHING is done. For example, suppose a sentence includes the phrases "WITH COST > 10.00 SWITCHING COST AND PRICE". Supposing that an item has a cost of $8.00 and a price of $12.00, would that item be included on the report? The answer is no, because the true cost is compared with 10.00 before it is switched with price.

3.4.14 FILL-DOCUMENT

FILL-DOCUMENT phrases are used only with the verb MULTIFILL. Please refer to Subsection 3.3.3.2.

SECTION 4 REPORT FORMS

This section describes how to create and use report forms to produce reports with special formats.

4.1 OVERVIEW

As discussed previously (see Subsection 3.4.1), report forms are not forms in the usual sense. They are a unique JUST ASK feature. You can produce reports without using report forms, in which case JUST ASK uses a "default" or "automatic" format. However, if you use report forms, you can specify your own "customized" format.

Report forms are created using the Layout A Report Form selection from the main JUST ASK menu. After the report form has been created and saved, you actually produce the report using the Display/Print A Report Form functions. This is done by entering a LIST sentence with an "AGAINST form-name" phrase. The "AGAINST form-name" phrase specifies which report form is to be used for the report.

The following example provides a brief overview of this procedure. When you select Layout A Report Form in order to create a new report form, first you are asked to name the report and define a maximum width and length. Then, the screen displays a "starter" report form, as shown below:

```
SELECT FUNCTION

`                    ********* REPORT HEADER *********
`                    ********** PAGE HEADER **********
  DATE              TIME                                  PAGE

`                    ********* BREAK HEADER **********
`                    ************ BODY ***************
`                    ******** BREAK TRAILER **********
`                    ********* PAGE TRAILER **********
`                    ******** REPORT TRAILER *********
`                    ******** END OF REPORT **********
```

The "starter" report form indicates the seven types of report line--report header, page header, and so on. For example, a report header prints only at the beginning of a report, while a page header prints at the beginning of each page, and so on. The various types are fully described in the next subsection.

After the starter form displays, you are in SELECT FUNCTION mode, so that you can use word processing commands to create the form. Many of the commands available are the same as described previously for the Make An Inquiry function (Section 2). All the commands are described later in this section.

After creating the form, you save it (KEEP command). A sample employee report form, EXAMPLE1, is shown below:

```
`                    ********* REPORT HEADER *********
                                                  DATE ^^^^^^^^
                      ACME INDUSTRIAL SUPPLY
                    A SUBSIDIARY OF SMITH INC.

                     MONTHLY SICK LEAVE REPORT
                     -------------------------
`                   ********** PAGE HEADER **********

                                                     HOURS
EMPLOYEE NAME                GRADE                 AVAILABLE
-------------                -----                 ---------
`                   ********* BREAK HEADER **********
DEPARTMENT NO.   ^^^

`                   ************ BODY ***************
            ^^^^^^^^
```

To produce a printed report using this report form, you would select Print A Report from the main JUST ASK menu and enter a sentence such as "LIST THE EMPLOYEE FILE BY DEPT\NO BY NAME BREAK-ON DEPT\NO AGAINST EXAMPLE1." This procedure would produce a report like the following sample report:

DATE 09/29/82

ACME INDUSTRIAL SUPPLY
A SUBSIDIARY OF SMITH INC.

MONTHLY SICK LEAVE REPORT

	EMPLOYEE NAME	GRADE	HOURS AVAILABLE
DEPARTMENT NO. 012			
	ELLIOT, BILL	05	20
	MILTON, GEORGE	05	24
	PAGE, KITTY	02	8
	RICHARDS, DON	05	8
	VANBUREN, ROGER	03	24
		DEPARTMENTAL SUBTOTAL	84
DEPARTMENT NO. 013			
	BENSON, JANICE	05	25
	CAMDEN, RANDAL	02	32
	CRAIG, PETER	01	12
	FOOTE, DONNA	03	24
	JACKSON, ANDREW	01	20
	PAYTON, JACK	01	18
	ZENITH, FRED	05	16
		DEPARTMENTAL SUBTOTAL	147
DEPARTMENT NO. 014			
	BLOOM, DICK	03	24
	BORDON, JACK	05	32
	CHESLEY, LOUIS	02	8
	CROW, MAT	03	24
	FLANAGAN, ALBERT	03	16
	JAMESON, MARY	02	8
	KASBACH, AMY	05	20
	MANNING, JOSEPH	06	24

PAGE 001

The next subsection defines the functions of the various types of report line and provides several sample report forms. Following that, Subsection 4.3 describes the procedure for Layout A Report, including all the available word processing commands.

4.2 THE SEVEN TYPES OF REPORT LINE

4.2.1 INTRODUCTION

There are seven types of report lines:

REPORT HEADER	Prints only on the page numbered 1 in a report. This is the first page of every report and the start of a group created by a "RESTART-ON" phrase.
PAGE HEADER	Prints just below the report header on the page numbered 1 and at the top of every succeeding page.
PAGE TRAILER	Prints at the bottom of every page.
REPORT TRAILER	Prints only at the end of the report. Prints above the page trailer on the last page unless a "PAGE-ON" or "RESTART-ON" phrase appears in the sentence, in which case it appears on a separate page.
BREAK HEADER	Prints above each group created by a "BREAK-ON", "PAGE-ON", or "RESTART-ON" phrase in the sentence.
BODY	Prints once for each record in the report.
BREAK TRAILER	Prints below each group created by a "BREAK-ON", "PAGE-ON", or "RESTART-ON" phrase in the sentence.

These seven report lines are optional. For example, you do not have to layout a REPORT HEADER if you do not want one on the report. Furthermore, if you want only a summary report, without showing detailed information on each record, you can omit the body lines.

Refer to Figure 4-1 on the next page for examples of report lines in a JUST ASK Report. "ACME INDUSTRIAL SUPPLY A SUBSIDIARY OF SMITH INC., MONTHLY SICK LEAVE REPORT" is the REPORT HEADER. "EMPLOYEE NAME, GRADE, HOURS AVAILABLE" make up the PAGE HEADER. "PAGE 001" is the PAGE TRAILER. "DEPARTMENT NO. [012, 013, 014]" is the BREAK HEADER. The BODY of the report is composed of the employee names, grades, and hours available. "DEPARTMENTAL SUBTOTAL" is the BREAK TRAILER.

In Figure 4-2, which is the second page of this Sick Leave Report, "GRAND TOTAL" is the REPORT TRAILER. Figure 4-3 shows how this report was set up in the Layout A Report Form function.

DATE 09/29/82

ACME INDUSTRIAL SUPPLY
A SUBSIDIARY OF SMITH INC.

MONTHLY SICK LEAVE REPORT

EMPLOYEE NAME	GRADE	HOURS AVAILABLE
DEPARTMENT NO. 012		
ELLIOT, BILL	05	20
MILTON, GEORGE	05	24
PAGE, KITTY	02	8
RICHARDS, DON	05	8
VANBUREN, ROGER	03	24
	DEPARTMENTAL SUBTOTAL	84
DEPARTMENT NO. 013		
BENSON, JANICE	05	25
CAMDEN, RANDAL	02	32
CRAIG, PETER	01	12
FOOTE, DONNA	03	24
JACKSON, ANDREW	01	20
PAYTON, JACK	01	18
ZENITH, FRED	05	16
	DEPARTMENTAL SUBTOTAL	147
DEPARTMENT NO. 014		
BLOOM, DICK	03	24
BORDON, JACK	05	32
CHESLEY, LOUIS	02	8
CROW, MAT	03	24
FLANAGAN, ALBERT	03	16
JAMESON, MARY	02	8
KASBACH, AMY	05	20
KRAMER, JOHN	06	8

PAGE 001

Figure 4-1 Report Line Examples

EMPLOYEE NAME	GRADE	HOURS AVAILABLE
MANNING, JOSEPH	06	24
MARTIN, CARRY	01	24
MARTIN, FRANK	07	12
PETERS, DEBBIE	05	16
REGAN, DENNIS	04	16
ROGERS, CARL	04	16
	DEPARTMENTAL SUBTOTAL	248
	GRAND TOTAL	479

Figure 4-2 Report Trailer Example

```
                    ********* REPORT HEADER *********
                                                      DATE ^^^^^^^^
                        ACME INDUSTRIAL SUPPLY
                      A SUBSIDIARY OF SMITH INC.

                        MONTHLY SICK LEAVE REPORT
                    ********** PAGE HEADER **********
                                                                HOURS
            EMPLOYEE NAME                          GRADE       AVAILABLE
                    ********** BREAK HEADER *********
  DEPARTMENT NO.  ^^^

                    ************* BODY **************
            ^^^^^^^^
```

The starter form has no report lines defined except for a "suggested" page header. Refer to the starter form below.

```
`            ********* REPORT HEADER *********
`            ********** PAGE HEADER **********
 DATE              TIME                          PAGE

`            ********* BREAK HEADER **********
`            ************ BODY ***************
`            ******** BREAK TRAILER **********
`            ********* PAGE TRAILER **********
`            ******** REPORT TRAILER *********

`            ******** END OF REPORT **********
```

The first two lines on the form look like this:

```
`            ********* REPORT HEADER *********
`            ********** PAGE HEADER **********
```

Since there are no lines between the headings REPORT HEADER and PAGE HEADER, there is no REPORT HEADER defined at this point. If you want to create a REPORT HEADER, you use the INSERT command to insert the desired number of blank lines. If you INSERT two lines, for example, the top of the form would look like this:

```
`            ********* REPORT HEADER *********

`            ********** PAGE HEADER **********
```

Next, you could use the ENTER or RETYPE command to create text on the blank REPORT HEADER lines. (All the commands are described in Subsection 4.3.) For example you might create a REPORT HEADER like this:

```
`            *********** REPORT HEADER ***********
                 MONTHLY SALES SUMMARY

`            ************ PAGE HEADER ************
```

Note that blank lines are quite acceptable. The REPORT HEADER shown above would cause "MONTHLY SALES SUMMARY" to print at the top of the report, followed by a blank line, before the PAGE HEADER is printed.

An important concept regarding report forms is the difference between text and element. **Text** is fixed, while **element** is filled in by JUST ASK when you produce a report. For example, look again at this sample report form and the resulting report (page 4-9):

```
                    ********* REPORT HEADER *********
                                                        DATE ^^^^^^^^
                       ACME INDUSTRIAL SUPPLY
                     A SUBSIDIARY OF SMITH INC.

                       MONTHLY SICK LEAVE REPORT
                       -------------------------
                    ********** PAGE HEADER **********
                                                              HOURS
              EMPLOYEE NAME                     GRADE       AVAILABLE
              -------------                     -----       ---------
                    ********** BREAK HEADER *********
   DEPARTMENT NO.   ^^^

                    ************* BODY **************
              ^^^^^^^^
```

DATE 09/29/82

ACME INDUSTRIAL SUPPLY
A SUBSIDIARY OF SMITH INC.

MONTHLY SICK LEAVE REPORT

EMPLOYEE NAME	GRADE	HOURS AVAILABLE
DEPARTMENT NO. 012		
ELLIOT, BILL	05	20
MILTON, GEORGE	05	24
PAGE, KITTY	02	8
RICHARDS, DON	05	8
VANBUREN, ROGER	03	24
	DEPARTMENTAL SUBTOTAL	84
DEPARTMENT NO. 013		
BENSON, JANICE	05	25
CAMDEN, RANDAL	02	32
CRAIG, PETER	01	12
FOOTE, DONNA	03	24
JACKSON, ANDREW	01	20
PAYTON, JACK	01	18
ZENITH, FRED	05	16
	DEPARTMENTAL SUBTOTAL	147
DEPARTMENT NO. 014		
BLOOM, DICK	03	24
BORDON, JACK	05	32
CHESLEY, LOUIS	02	8
CROW, MAT	03	24
FLANAGAN, ALBERT	03	16
JAMESON, MARY	02	8
KASBACH, AMY	05	20
MANNING, JOSEPH	06	24

PAGE 001

The column headings, such as "EMPLOYEE NAME", "POSITION", and "HOURS AVAILABLE", are examples of text. The various names, positions, and hours that appear on the report are examples of elements. JUST ASK retrieves this information from a file when you produce the report. Notice that on the report form, the element areas are indicated by strings of carets (^).

When you create an element area, you specify a JUST ASK element name. This tells JUST ASK what element you want to insert into this area. You can list all the element names defined for a given file using the "List Kept Elements" utility. In addition to these elements, there are four special elements that are available on any report:

^^DATE^^	Causes JUST ASK to insert the current date, in MM/DD/YY format.
^^TIME^^	Causes JUST ASK to insert the current time (time that report was started), using 24-hour time in HH:MM:SS format.
^^PAGE^^	Causes JUST ASK to insert the current page number, using the format 001, 002, and so on.
^^LINE^^	Causes JUST ASK to insert the current line number, using the format 0001, 0002, and so on. Only BODY lines on the report are counted, not HEADER or TRAILER lines.

Another important concept regarding report forms is the difference between individual and group values. An **individual value** is the value of a particular element within a particular record.

A **group value** is the total, average, or percentage value of a particular element for a particular group of records. Referring back to the sample report (EXAMPLE2), you should see that 20, 24, 8, 8, and 24 are the first five individual values of VACATION on the report, while 84 is a group value, being the total SICK LEAVE HOURS AVAILABLE for the first group (DEPT NO. 012) on the report.

The following subsections describe each of the seven types of report line in detail. Then, Subsection 4.2.9 provides some sample report forms.

4.2.2 REPORT HEADER LINES

Report header lines are printed only on the page (or pages if using restart) numbered 1 in the report. Directly below the report header, the page header (if any) will be printed.

The report header usually consists only of text, not data. However, a data area for individual values can be created in the report header. If you do this, JUST ASK will insert data from the first record retrieved for the report; that is, the record used for the report header is the same record used for the first BODY line of the report. For example, you might create a report header line such as:

```
THIS REPORT STARTS WITH PART NUMBER ^^^^^^^
```

It would be reasonable to create element areas for the current date and time (^^DATE^^ and ^^TIME^^) within the report header, so that these elements print at the beginning of the report. However, if you want the date and time to appear on every page, locate them in the page header rather than the report header. If you duplicate an element in the report header and page header, this element will appear twice on the first page of the report.

4.2.3 PAGE HEADER LINES

Page header lines print directly below the report header on the first page and at the top of every succeeding page. (JUST ASK advances to the top of a new page when the current page is full or when a new PAGE-ON or RESTART-ON group is started.)

The starter report form includes "suggested" page header lines. It would be reasonable to create element areas for the current date, time, and page number (^^DATE^^, ^^TIME^^, and ^^PAGE^^) within these lines, as shown below:

```
`          ********** PAGE HEADER **********
      DATE ^^^^^^^^   TIME ^^^^^^^^    PAGE ^^^

`          ********** BREAK HEADER *********
```

Usually, the page header also includes the column headings for the report, as shown below:

```
`          ********** PAGE HEADER **********
     DATE ^^^^^^^^   TIME ^^^^^^^^   PAGE ^^^

      PART NUMBER       DESCRIPTION       ON HAND
      ===========       ===========       =======

`          ********* BREAK HEADER *********
```

If you want a blank line between the column headings and the next line of the report, include a blank line in the page header, as shown above.

You can lay out element areas for individual values within the page header. The record that supplies the data for these elements is the same record used for the first BODY line on this page. For example, you could create a page header line such as:

```
THIS PAGE STARTS WITH PART NUMBER ^^^^^^^.
```

4.2.4 PAGE TRAILER LINES

Page trailer lines print at the bottom of every page. It would be reasonable to use the special element values ^^DATE^^, ^^TIME^^, or ^^PAGE^^ within a page trailer.

You can also locate element areas for individual values within the page trailer. The record that supplies the data for these areas is the same record used for the first BODY line on the next page. For example, you might create a page trailer line such as:

```
THE FIRST PART NUMBER ON THE NEXT PAGE IS ^^^^^^^.
```

You cannot create element areas for group values within a page trailer. That is, you cannot use the page trailer to print out a total, average, or percentage value for the page.

4.2.5 REPORT TRAILER LINES

Report trailer lines print only at the end of the report. However, report trailers are printed on a separate last page when using the phrases PAGE-ON or RESTART-ON. They are the last lines on the report, except for the page trailer (if any) at the bottom of the last page.

Report trailer lines may include text and element areas. However, the element areas may be used for group values only. When you create a group element (see Subsection 4.3 for details), you must specify whether you want the total, average, or percentage value for the particular element. In a report trailer, a total value is the grand total for the entire report, while an average value is the overall average for the entire report.

NOTE: There is really no need to place a percentage value in the report trailer, although it is allowed. The value would be the report total as a percentage of itself and, thus, would always be 100%.

If you create a total, average, or percentage element area, these areas are automatically filled in by JUST ASK when you produce a report using this report form. Of course, the JUST ASK sentence must include an "AGAINST report-form" phrase, but it should not include the phrases TOTAL, AVERAGE, PERCENT, EVALUATE, TOTAL-ALL, AVG-ALL, PER-ALL, or EVAL-ALL.

4.2.6 BODY LINES

Body lines print once for every record in the report. These are the "detail" lines that provide information about individual records in the file.

Text and element areas for individual values can be included in the body lines. If you want each record to be numbered, you can include the element ^^LINE^^ in the body. The first record printed will have line number 0001, the next will have 0002, and so on.

The element areas you lay out will automatically be filled in by JUST ASK when you produce the report. You should not repeat element names in the JUST ASK sentence. That is, you would use a sentence such as "LIST filename AGAINST formname." rather than "LIST filename AGAINST formname FOR element1, element2, AND element3."

As with all types of report line, body lines are optional. They can be omitted altogether in order to produce a summary report without detail lines. Optionally, the body could consist of a line with element areas together with one blank line, in order to produce double spacing.

4.2.7 BREAK HEADER LINES

Break header lines print only if there is a PAGE-ON, BREAK-ON, or RESTART-ON phrase in the JUST ASK sentence. If these exist the report is broken into groups, and the break header lines print at the top of each group.

If there are multi-level breaks in the report, the break header lines print at every break level.

Break header lines may include text and elements for individual values. The record that supplies the data for these elements is the same record used for the first body line of the group just below the break header. This makes the break header an ideal place to output the common group value. For example, in a report produced using a BREAK-ON DEPT\NO phrase, you might use a break header line like this:

```
STATISTICS FOR DEPT ^
```

As another example, suppose a report has two break levels, such as BREAK-ON DIVISON BREAK-ON DEPT\NO. In this case, you might use a break header like this:

```
STATISTICS FOR DIVISION ^ DEPT ^
```

4.2.8 BREAK TRAILER LINES

Break trailer lines print only if there is a RESTART-ON, PAGE-ON, or BREAK-ON phrase in the JUST ASK sentence. If these exist the report is broken into groups, and the break trailer lines print at the bottom of each group.

Break trailer lines may include text and element areas for <u>group</u> values. When you create a group element (see Subsection 4.3 for details), you must specify whether you want a total, average, or percentage value for the particular element. In a break trailer, a total value is the subtotal for the group of records just printed. Similarly, an average value is the average for this group, while a percentage value is the group subtotal expressed as a percentage of the report grand total.

With multi-level breaks, JUST ASK prints one trailer line for the current break level and for each lower-priority break level. As mentioned in Section 3, JUST ASK can maintain group statistics for a maximum of three break levels.

Suppose a large business is divided into companies, with each company divided into divisions and each division divided into departments. You might produce a report with three break levels, using phrases such as BY COMPANY BY DIVISION BY DEPT\NO PAGE-ON COMPANY BREAK-ON DIVISION BREAK-ON DEPT\NO.

In this case, a simple departmental break causes one break trailer to print, giving group statistics for the department. A break on division causes two break trailers to print. The first gives the group statistics for the last department of the division, while the second gives statistics for the division. A break on company causes three break trailers to print, giving statistics for the last department, then the last division, and finally for the company. Notice that the lowest-priority trailer prints <u>first</u>.

As mentioned previously, all the data areas on a report form are automatically filled in by JUST ASK when you produce a report using that form. The JUST ASK sentence must include an "AGAINST report-form" phrase but should <u>not</u> include the phrases TOTAL, AVERAGE, PERCENT, EVALUATE, TOTAL-ALL, AVG-ALL, PER-ALL, or EVAL-ALL since these would already have been defined into the report form format.

4.2.9 SAMPLE REPORT FORMS

This subsection provides four sample report form examples for the reports they produce. The examples include a simple report, a report with a single break level, a report with multiple break levels, and a summary report.

4.2.9.1 Simple Report

This report was generated by listing the EMPLOYEE file against a previously laid out report form, named EMPREPORT. The sentence used to generate the printed report was "LIST THE EMPLOYEES AGAINST EMPREPORT."

DATE 09/29/82

ACME INDUSTRIAL SUPPLY
A SUBSIDIARY OF SMITH INC.

MONTHLY SICK LEAVE REPORT

EMPLOYEE NAME	GRADE	HOURS AVAILABLE
ROGERS, CARL	04	16
CAMDEN, RANDAL	02	32
PAGE, KITTY	02	8
ELLIOT, BILL	05	20
PAYTON, JACK	01	18
JACKSON, ANDREW	01	20
REGAN, DENNIS	04	16
FLANAGAN, ALBERT	03	16
MANNING, JOSEPH	06	24
BORDON, JACK	05	32
ZENITH, FRED	05	16
JAMESON, MARY	02	8
BENSON, JANICE	05	25
KRAMER, JOHN	06	8
FOOTE, DONNA	03	24
CRAIG, PETER	01	12
MARTIN, CARRY	01	24
VANBUREN, ROGER	03	24
KASBACH, AMY	05	20
MILTON, GEORGE	05	24
MARTIN, FRANK	07	12
RICHARDS, DON	05	8
PETERS, DEBBIE	05	16
CHESLEY, LOUIS	02	8
CROW, MAT	03	24
BLOOM, DICK	03	24
	GRAND TOTAL	479

Figure 4-4 Sample of a Simple Report

4.2.9.2 A Report with a Single Break Level

This report was generated by listing the EMPLOYEE file against a previously laid out report form, named EMPREPORT. The example breaks-on, or groups, employees by department numbers and was generated by the sentence: "LIST THE EMPLOYEES AGAINST EMPREPORT BY DEPT\NO BREAK-ON DEPT\NO."

DATE 09/29/82

ACME INDUSTRIAL SUPPLY
A SUBSIDIARY OF SMITH INC.

MONTHLY SICK LEAVE REPORT

EMPLOYEE NAME	GRADE	HOURS AVAILABLE
DEPARTMENT NO. 012		
PAGE, KITTY	02	8
ELLIOT, BILL	05	20
VANBUREN, ROGER	03	24
MILTON, GEORGE	05	24
RICHARDS, DON	05	8
	SUBTOTAL	84
DEPARTMENT NO. 013		
CAMDEN, RANDAL	02	32
PAYTON, JACK	01	18
JACKSON, ANDREW	01	20
ZENITH, FRED	05	16
BENSON, JANICE	05	25
FOOTE, DONNA	03	24
CRAIG, PETER	01	12
	SUBTOTAL	147
DEPARTMENT NO. 014		
ROGERS, CARL	04	16
REGAN, DENNIS	04	16
FLANAGAN, ALBERT	03	16
MANNING, JOSEPH	06	24
BORDON, JACK	05	32
JAMESON, MARY	02	8
KRAMER, JOHN	06	8
MARTIN, CARRY	01	24
KASBACH, AMY	05	20
MARTIN, FRANK	07	12
PETERS, DEBBIE	05	16
CHESLEY, LOUIS	02	8
CROW, MAT	03	24
BLOOM, DICK	03	24
	SUBTOTAL	248
	GRAND TOTAL	479

Figure 4-5 Report with a Single Break

4.2.9.3 A Report with Multiple Break Levels

This report was generated by listing the EMPLOYEE file against a previously laid out report form, named EMPREPORT. The two page example breaks-on department number and contains sub-breaks within department by grade. The report was generated by the sentence: "LIST THE EMPLOYEES AGAINST EMPREPORT BY DEPT\NO BREAK-ON DEPT\NO BY GRADE BREAK-ON GRADE."

```
                                                        DATE 09/29/82
                    ACME INDUSTRIAL SUPPLY
                    A SUBSIDIARY OF SMITH INC.

                    MONTHLY SICK LEAVE REPORT
                    -------------------------
                                                                HOURS
            EMPLOYEE NAME                          GRADE       AVAILABLE
            -------------                          -----       ---------
DEPARTMENT NO.   012      GRADE   02

            PAGE, KITTY                            02              8
                                                                ---------
                                                      SUBTOTAL      8
DEPARTMENT NO.   012      GRADE   03

            VANBUREN, ROGER                        03             24
                                                                ---------
                                                      SUBTOTAL     24
DEPARTMENT NO.   012      GRADE   05

            ELLIOT, BILL                           05             20
            MILTON, GEORGE                         05             24
            RICHARDS, DON                          05              8
                                                                ---------
                                                      SUBTOTAL     52
                                                                ---------
                                                      SUBTOTAL     84
DEPARTMENT NO.   013      GRADE   01

            PAYTON, JACK                           01             18
            JACKSON, ANDREW                        01             20
            CRAIG, PETER                           01             12
                                                                ---------
                                                      SUBTOTAL     50
DEPARTMENT NO.   013      GRADE   02

            CAMDEN, RANDAL                         02             32
                                                                ---------
                                                      SUBTOTAL     32
DEPARTMENT NO.   013      GRADE   03

            FOOTE, DONNA                           03             24
                                                                ---------
                                                      SUBTOTAL     24
DEPARTMENT NO.   013      GRADE   05

            ZENITH, FRED                           05             16
            BENSON, JANICE                         05             25
                                                                ---------
                                                      SUBTOTAL     41
                                                                ---------
                                                      SUBTOTAL    147
DEPARTMENT NO.   014      GRADE   01

            MARTIN, CARRY                          01             24
                                                                ---------
                                                      SUBTOTAL     24
DEPARTMENT NO.   014      GRADE   02
PAGE 001
```

Figure 4-6 Report with Multiple Breaks (1 of 2)

EMPLOYEE NAME	GRADE	HOURS AVAILABLE
JAMESON, MARY	02	8
CHESLEY, LOUIS	02	8
	SUBTOTAL	16
DEPARTMENT NO. 014 GRADE 03		
FLANAGAN, ALBERT	03	16
CROW, MAT	03	24
BLOOM, DICK	03	24
	SUBTOTAL	64
DEPARTMENT NO. 014 GRADE 04		
ROGERS, CARL	04	16
REGAN, DENNIS	04	16
	SUBTOTAL	32
DEPARTMENT NO. 014 GRADE 05		
BORDON, JACK	05	32
KASBACH, AMY	05	20
PETERS, DEBBIE	05	16
	SUBTOTAL	68
DEPARTMENT NO. 014 GRADE 06		
MANNING, JOSEPH	06	24
KRAMER, JOHN	06	8
	SUBTOTAL	32
DEPARTMENT NO. 014 GRADE 07		
MARTIN, FRANK	07	12
	SUBTOTAL	12
	SUBTOTAL	248
	GRAND TOTAL	479

PAGE 002

Figure 4-6 Report with Multiple Breaks (2 of 2)

4.2.9.4 A Summary Report

This report was generated by listing the EMPLOYEE file against a previously laid out report form, named EMPSUMRY. The example was generated by the sentence: "LIST THE EMPLOYEES AGAINST EMPSUMRY BY DEPT\NO BREAK\ON DEPT\NO.

```
                                                    DATE 09/29/82
                    ACME INDUSTRIAL SUPPLY
                  A SUBSIDIARY OF SMITH INC.

              DEPARTMENTAL MONTHLY SICK LEAVE SUMMARY
              ---------------------------------------
DEPARTMENT NO.   012
                            SUBTOTAL      84
DEPARTMENT NO.   013
                            SUBTOTAL     147
DEPARTMENT NO.   014
                            SUBTOTAL     248
                                         ===
                         GRAND TOTAL     479
```

Figure 4-7 Summary Report

4.3 LAYOUT A REPORT FORM

Many of the commands and cursor movement functions in JUST ASK are similar to those used by the CADO Word Processor. In many ways, building a form resembles creating a word processing document. Both procedures involve similar steps for entering, editing, and keeping.

4.3.1 ACCESSING LAYOUT A REPORT FORM

Select Layout A Report Form from the main JUST ASK menu. The screen displays:

```
REPORT NAME: []
```

If you are creating a new report form, enter the name you want to use for saving and recalling the form.* If you want to recall an existing form, enter the name of that form.

If you are calling up an existing form, the "header" for that form is displayed. The header indicates who created the form, the date created, the revision level, who last worked on the form, and the date the form was last worked on. A sample header is shown below:

```
CREATED 05/16/82 BY JB VERSION 003 MADE 07/10/82 BY JOHN
```

Then, for both new and existing forms, the screen displays:

```
FORM WIDTH IN COLUMNS? (80-240) 80[]
```

For an existing form, the current width is displayed. For a new form, the "default" width of 80 columns is displayed. To accept the displayed width, just press RETURN. To change the displayed width, press DEL to delete the current setting, then enter the new setting.

The screen clears and displays:

```
FORM LENGTH IN LINES? (2-240) 24[]
```

---

*For rules regarding names, see Section 3.2.2.2.

The current length is displayed for an existing report form. For a new form, the "default" length of 24 lines is displayed. Accept or change the displayed setting, using the same procedure as described above for form width.

For an existing form, do not decrease the width or length so much that you lose important parts of the form. If you have text in columns 90-100, for example, and you decrease the width to 80, that text will be lost from the form. However, JUST ASK will not allow you to decrease the width of a form if that would result in the loss of a data area (string of carets). If you attempt to do this, JUST ASK will redisplay the FORM WIDTH prompt with width setting that will contain the element.

The same warning holds true for form length. As a rule you should always be generous in specifying the length of a report form. This length has no bearing on the length of reports that are produced against this form. This length merely refers to the length of the form itself.

At this point, if you are recalling an existing form, that form is displayed for inspection and possible editing. However, if you are creating a new form, the "starter" form is displayed, as shown below:

```
SELECT FUNCTION

`            ********* REPORT HEADER *********
`            ********** PAGE HEADER **********
  DATE             TIME                              PAGE

`            ********* BREAK HEADER **********
`            ************ BODY ***************
`            ******** BREAK TRAILER **********
`            ********* PAGE TRAILER **********
`            ******** REPORT TRAILER *********
`            ******** END OF REPORT **********
```

Notice that SELECT FUNCTION is displayed above the form. This prompt is explained in the next subsection.

4.3.2 SELECT FUNCTION MODE

As mentioned in Section 2, SELECT FUNCTION mode might also be called "command key" mode. By displaying the SELECT FUNCTION prompt, JUST ASK is telling you: "Please press one of the available command keys."

To display a list of the commands available at a given time, give the HELP command by pressing the "?" key. This interrupts the current function temporarily and displays a "HELP screen". The HELP screen for Layout A Report Form is shown below. To leave a HELP screen and get back to the previous screen, just press RETURN.

```
AVAILABLE FUNCTIONS

     KEY - FUNCTION                          KEY - FUNCTION
      4    LEFT                                E    ENTER
      6    RIGHT                               R    RETYPE
      8    UP                                  X    X OUT
      2    DOWN                                D    DELETE
      5    HOME                                I    INSERT
      H    HOME                                K    KEEP
      7    LINE START                          P    PRINT FUNCTIONS
      9    LINE  END
      B    COLUMN
      L    LINE
      W    WHERE
```

The HELP screen lists commands in two columns. The column on the left includes the commands common to all the JUST ASK functions. These are the cursor movement commands. Cursor movement and "scrolling" have been described previously in Section 2.1.5.

The print functions were described in Section 2.1.6. Note, however, that the print functions are rarely used within Layout A Report Form. When you create a report form you will probably print a copy for your records; otherwise, you do not usually print report forms. In any case, the ALIGNMENT, OVERLAY, and FILL print functions have no relevance to report forms.

The column on the right of the HELP screen lists the other commands available. These are described in the following subsections.

4.3.3 LAYING OUT TEXT ON A REPORT FORM

The **text** on a report form is the fixed part of the form. The **element areas** are the parts of the form that are filled in by JUST ASK when you produce a report. Text and element areas can be created in any order. This subsection describes how to lay out text using the commands INSERT, DELETE, ENTER, RETYPE and XOUT. Note that these commands can be used equally well for laying out text on a new report form or rearranging text on an existing form.

4.3.3.1 Insert and Delete

When you create a new report form, you begin with the starter form, as shown below.

```
`                 ********* REPORT HEADER *********
`                 ********** PAGE HEADER **********
  DATE                  TIME                                PAGE

`                 ********* BREAK HEADER **********
`                 ************ BODY ***************
`                 ******** BREAK TRAILER **********
`                 ********* PAGE TRAILER **********
`                 ******** REPORT TRAILER *********
`                 ******** END OF REPORT **********
```

Suppose you want a three-line report header, but no page header. You would use the INSERT and DELETE commands. With INSERT you can create three blank report header lines; with DELETE you can delete the two page header lines that appear on the starter form.

To use INSERT, position the cursor anywhere on the line where you want the insertion to begin. (This line and all lines below will be pushed down by the inserted lines.) In SELECT FUNCTION, press I. The screen displays:

```
INSERT
NUMBER OF LINES? (1-240) []
```

Enter the number of lines you want to insert and press RETURN. The system inserts the specified number of blank lines.

NOTE: It is possible to insert more lines than the form was designated to have. For example, if the form length is said to be 24 lines, it is possible to position to line 20 and insert 2 lines. This pushes the previous lines 23 and 24 off the form and moves 20 through 22 down to 22 through 24. The information that was pushed off the form is now lost. If these lines were blank, this causes no problem. If they had information, you may recover them by deleting the 2 lines that you inserted. If you keep the form without doing the delete, however, the information is lost forever. One way to help avoid this problem is to designate the report form length somewhat longer than you think you'll need--this way you will have some room to add later.

If, for example, you want to insert three blank report header lines on the starter form, you would position the cursor on the PAGE HEADER line, give the command, and specify 3 for number of lines. The resulting form would be:

```
SELECT FUNCTION
`                 ********* REPORT HEADER *********


`                 ********** PAGE HEADER **********
  DATE                  TIME                                  PAGE
`                 ********* BREAK HEADER **********
`                 ************ BODY ***************
`                 ******** BREAK TRAILER **********
`                 ********* PAGE TRAILER **********
`                 ******** REPORT TRAILER *********
`                 ******** END OF REPORT **********
```

For INSERT, remember to place the cursor on the first line that you want to move down. Note that JUST ASK will not permit lines to be inserted above the report header. So commands for INSERT while the cursor is positioned on the report header line will be ignored.

To use DELETE, position the cursor anywhere on the first line you want to delete. In SELECT FUNCTION, press D. The screen displays:

```
DELETE
NUMBER OF LINES? (1-240) []
```

Enter the number of lines you want to delete and press RETURN. The lines disappear, and the remainder of the form moves up into the space they occupied.

For example, to delete the two page header lines shown on the starter form, position the cursor on the line with DATE, TIME, and PAGE, press D, and specify 2 for number of lines. The resulting form would be:

```
SELECT FUNCTION

`                 ********* REPORT HEADER *********
`                 ********** PAGE HEADER **********
`                 ********* BREAK HEADER **********
`                 ************* BODY ***************
`                 ******** BREAK TRAILER **********
`                 ********* PAGE TRAILER **********
`                 ******** REPORT TRAILER *********
`                 ******** END OF REPORT **********
```

Note that the special lines starting with an ` and labeled REPORT HEADER, PAGE HEADER, and so on cannot be deleted. So deletion stops at these lines, no matter how many lines are specified for deletion.

4.3.3.2 Enter and Retype

Text can be created on a report form using either ENTER or RETYPE. If a line is blank, these commands work the same way. Press E (ENTER) or R (RETYPE) and begin entering text. In addition to entering characters, you can embed spaces with the spacebar and erase with the BACKSPACE key.

You cannot enter or retype text beyond the end of the line. When you are ready to reposition the cursor, press RETURN or CAN to get out of ENTER or RETYPE mode and back into SELECT FUNCTION.

NOTE: Pressing the RETURN key does not give a new line. To start a new line, you must press CAN or RETURN to get back into SELECT FUNCTION, reposition the cursor, and then press ENTER or RETYPE again. Do not press CAN more than once before you reposition.

If a line is not blank, RETYPE and ENTER work differently. Use RETYPE to replace existing characters by "typing over" them; use ENTER to insert new text between existing characters.

If you want to "type over" existing characters, position the cursor at the point where you want to begin retyping, press R for RETYPE, and type the replacement characters. You cannot retype beyond the end of the line, and you cannot retype over the carets (^) that represent elements. If you do reach a caret or the end of line, the bell rings, and no more entries are accepted. Press CAN or RETURN to cancel RETYPE and get back to SELECT FUNCTION mode.

If you want to insert text, position the cursor to the point where you want to begin inserting text, and press E. The text beyond the cursor moves to the right as far as possible--that is, until it reaches the edge of the form. Enter your text, then cancel the ENTER mode with CAN or RETURN. The displaced text then moves back to close up any remaining space.

<u>NOTE</u>: During normal JUST ASK operation, the system is in ALPHA LOCK mode (giving upper case letters and unshifted numeric characters). If you want to enter lower case letters, you can leave ALPHA LOCK by pressing CTRL + LOCK.

The following example demonstrates insertion of text. Suppose one line of a report form is:

```
MONTHLY REPORT
```

Suppose also that you want to insert the word "SALES", so that the line reads "MONTHLY SALES REPORT". To do this, position the cursor on the first R of "REPORT" and press E. The word "REPORT" is moved to the extreme right, as shown below:

```
MONTHLY []                                        REPORT
```

Next, type the text you are inserting:

```
MONTHLY SALES[]                                   REPORT
```

Finally, press CAN or RETURN to cancel ENTER mode and close up the remaining space:

```
MONTHLY SALES REPORT
```

4.3.3.3 Xout

You can use XOUT to delete unwanted characters one at a time within a line. The remainder of the line moves left to fill up the space, but text never moves up from the line below (i.e., there is no "wrapping").

To use XOUT, position the cursor on the unwanted character. In SELECT FUNCTION mode, press the "X" key. The character vanishes. If the "X" key is held down, XOUT operates continuously, but it never deletes beyond the current line.

To XOUT an element, that is, a series of carets, you need only position to the first caret and press XOUT once. JUST ASK treats the element as a single entity and thus actually X's out every caret. To prevent error, you may not XOUT the middle of an element. XOUT is rejected at any caret other than the first of the element.

For example, suppose you want to delete the word "SALES" from the line shown below:

```
MONTHLY SALES REPORT
```

Position the cursor on the S and press XOUT six times (once for each letter and once again for the space between "SALES" and "REPORT"). The characters are deleted and "REPORT" moves to the left:

```
MONTHLY REPORT
```

When you finish with XOUT you may resume creating text by using ENTER or RETYPE.

4.3.4 LAYING OUT ELEMENT AREAS

Element areas are the parts of a form that are filled in by JUST ASK when you produce a report AGAINST that form. An element is represented on a report form by a string of carets (^).

As described in Subsection 4.2, there are two types of element area: individual values and group values. Remember that group values can only be created within a BREAK TRAILER or REPORT TRAILER line, not in a BODY, HEADER or PAGE TRAILER line.

To create an element for an individual value, position the cursor at the point where you want the element area to begin. If you want to enter this element between existing text and/or element, press ENTER. Or, you can press RETYPE. Then, in ENTER or RETYPE mode, press the "^" key.

NOTE: The first time that you create an element area, you must specify the name of the file that contains this data. This file name is the same as the one that will appear in the sentences using this report.

You are prompted for this name by:

```
WHAT IS THE NAME OF THE FILE THAT CONTAINS THE DATA? []
```

Enter the name of the existing file that is to be used, that is, a file for which a Data Entry Form exists. JUST ASK responds with:

```
ELEMENT'S NAME: []
```

Type in the name of an existing element.

You can list all the existing element names for a file using the "List Kept Elements" utility. In addition to these names there are the standard elements: ^^DATE^^, ^^TIME^^, ^^PAGE^^, and ^^LINE^^. These represent the current date, time, page number, and line number, respectively.

If you enter an invalid name, the system beeps, erases the name, and waits for you to enter another name. If you enter a valid element name, JUST ASK displays the correct number of carets (^) at the desired position on the form.

This completes the procedure for creating an element area for an individual value. At this point, you are still in the ENTER or RETYPE mode you selected earlier. If you want to reposition the cursor, you must press CAN or RETURN to get back to SELECT FUNCTION mode.

To create an element for a group value, you press the "@" key instead of the "^" key. Otherwise, the procedure is the same, except that after you enter the element name, you must answer one additional prompt:

```
TOTAL, AVERAGE, or PERCENT? (1-3) []
```

When this prompt appears, enter 1, 2, or 3 to indicate whether you want the group total (1), average (2), or percent (3).

You can delete elements using DELETE or XOUT. The DELETE command deletes entire lines, so if you delete a line that contains elements, these areas are deleted along with any text on that line.

To XOUT a data area, place the cursor on the first (leftmost) caret and press XOUT once. The entire element will be deleted, and the remainder of the line moves left to fill up the space. To prevent accidental deletion of an element, the XOUT command has no effect on an element unless the cursor is positioned on the first (leftmost) caret of the element.

The RETYPE and ENTER commands will not allow you to "type over" an element. If you attempt to do this, the system beeps and ignores the keystrokes.

4.3.5 KEEP

To save a report form, give the KEEP command by pressing the "K" key. The screen displays:

```
KEEP
REPORT NAME:  XXXXXXXX []
```

where XXXXXXXX represents the name of the current form.

You can accept this form name by pressing RETURN, or you can erase it (press DEL) and enter a different form name.

NOTE: When you call up an existing form and change it, you usually KEEP it using the same name. Be aware, however, that this causes the new version of the form to replace the old. If you want to save both the old and new versions, KEEP the new version using a new name.

Next, the system prompts for YOUR NAME. This refers to your own name, not the name of the form. (You may skip this entry by pressing RETURN.) This request is made so that the next time this form is called up on the screen for editing, the header will display, along with the report form's name, your name, as the person who most recently worked on it.

Once you press RETURN, the form is cleared from the screen and saved, and the system returns to the REPORT FORM NAME: prompt. You can call up another form or press CTRL + ESC to return to the main menu.

You do not always need to KEEP a form. To clear a report form from the screen without KEEPing it, use CAN or CTRL + ESC, as described in the next subsection.

4.3.6 CAN and ESC

As described in Section 2.1.8, you use CAN to terminate the current mode and return to the previous mode, while you use CTRL + ESC to return as directly as possible to the main JUST ASK menu. Within Layout A Report Form, you use CAN mainly in the following situations:

1) To return from ENTER, RETYPE, or HELP mode to SELECT FUNCTION mode. Note that RETURN can be used instead of CAN in these situations.

2) To return from SELECT PRINT FUNCTION mode to SELECT FUNCTION mode.

3) To clear a form from the screen without KEEPing it. This situation is further explained in the following paragraphs.

After calling up a form, you do not always need to KEEP it. For example, if you only look at an existing form, without changing it, there is no need to KEEP the form again. Or, you might change the form on the screen and then decide that you do not want those changes after all.

To clear a form from the screen without KEEPing it, press CAN in SELECT FUNCTION mode. The screen displays:

```
CANCEL? (Y/N) []
```

When you see this prompt, stop and think. JUST ASK is warning you that you may be about to clear this form without having KEPT it. To proceed, answer "Y". To leave the form on the screen and return to SELECT FUNCTION, answer "N".

If you do CANcel the form, the screen displays the FORM NAME prompt. You can then call up another form.

As mentioned, CTRL + ESC should be used when you want to return to the main JUST ASK menu. If a form is displayed on the screen when you press CTRL + ESC, the following prompt displays:

```
ESCAPE? (Y/N) []
```

This is similar to the CANCEL? prompt. Make sure you have KEPT any form you may want to use again. To proceed, answer "Y". To leave the form on the screen and return to SELECT FUNCTION, answer "N".

SECTION 5 DATA ENTRY AND EDITING

Once data entry forms have been created and elements defined, you are ready to begin entering data. Data entry can be as simple and straightforward as keying repetitive records onto a displayed form, saving the form, and (ultimately) printing it out. Or, an operator can set up some special conditions governing data entry, such as selecting certain records from a file but not others, or changing the way JUST ASK responds to a request for a nonexistent record.

This section covers the available data entry commands, including procedures for accessing, entering, and editing data, changing display and record retrieval settings, and printing.

5.1 ENTRY

5.1.1 ACCESSING DATA ENTRY

When you select Enter Data from the JUST ASK main menu, the screen displays:

```
DATA ENTRY FORM NAME: []
```

Enter the name of the form you want to use and press RETURN.

If the form does not exist, JUST ASK displays the message:

```
SORRY, THIS FORM HAS NOT BEEN DEFINED
```

and asks for an existing Data Entry Form name again.

If the form exists, the form header displays and then, if the form is not password protected, it will display immediately along with the prompt:

```
SELECT DATA ENTRY FUNCTION
```

If it does have a password, the message PASSWORD displays under the form header, and you must enter the correct password.

If you enter an incorrect password, JUST ASK returns you to the DATA ENTRY FORM NAME: prompt, and you will have to enter the name again, and the correct password.

Once you have entered the correct password, your form displays, along with the prompt:

```
SELECT DATA ENTRY FUNCTION
```

The available Data Entry commands are listed on the Data Entry HELP screen when you enter "?" and are summarized below:

Key	Command	Function
E	DATA ENTRY	Allows operator to enter data onto a form
G	GET	Calls a record onto the screen
K	KEEP	Saves a record
D	DELETE	Deletes a record from the file
C	CLEAR	Clears all entries from the form displayed
P	PRINT FUNCTIONS	Prints record
T	TOGGLE INITIAL RECORD	Allows operator to select from three possible initial display states
R	SELECTIVE RETRIEVAL	Allows operator to set a condition governing which records to retrieve
U	DUPLICATE KEY RETRIEVAL	Allows sequential retrieval of records having duplicate keys

These commands are covered in this section.

5.1.2 ENTER AND KEEP

To enter data, you should be in SELECT DATA ENTRY FUNCTION with your form displayed, and the cursor positioned before the desired entry.

Press E for Enter.

The screen displays:

```
DATA ENTRY
```

and the cursor moves to the beginning of the element nearest to the cursor's current position, as shown in Figure 5-1. The nearest element is the first one to the right on the current line followed by the first element encountered moving left to right on subsequent lines.

```
DATA ENTRY

                    ACME MANUFACTURING COMPANY
                       TORRANCE, CALIFORNIA

SALES ORDER #[^]^^^^^^^  BILL TO: ^^^^^^^^^^^^^^^^^^^ ^^^^^^^^^^^^^^^
                                  ^^^^^^^^^^^^^^^^^^^^^^^^^^^
CUSTOMER ID # ^^^^^^^^            ^^^^^^^^^^^^^^^^^^^ ^^^^^^^^^^^^^^^
                                  ^^^^^

PART #    DESCRIPTION                 QTY       PRICE       EXTENSION
^^^^^^^^  ^^^^^^^^^^^^^^^^^^^^^^^     ^^^   ^^^^^^^^^^   ^^^^^^^^^^^^^
^^^^^^^^  ^^^^^^^^^^^^^^^^^^^^^^^     ^^^   ^^^^^^^^^^   ^^^^^^^^^^^^^
                                                         -------------
                                            SUBTOTAL     ^^^^^^^^^^^^^
                                            TAX (6%)     ^^^^^^^^^^^^^
                                                         =============
                                            TOTAL        ^^^^^^^^^^^^^
```

Figure 5-1 Sample Data Entry Screen

You can now begin entering data, pressing RETURN after each element entered. The order the elements will be entered in is the one you have specified using the ALTER ENTRY ORDER function as described in Subsection 7.3.6.

Depending upon how the form is set up, your entries may be automatically saved at a certain point. If this is not the case, when you have finished entering a record, save the record by pressing KEEP.

The word KEEP displays momentarily, and then SELECT DATA ENTRY FUNCTION redisplays.

If you enter the key element or record number of a record that already exists, that record displays on the screen. (ENTER, therefore, allows both entry of new data and retrieval of existing data.) You are therefore prevented from inadvertently entering duplicate records.

Please note that JUST ASK does not allow you to KEEP the same record twice in a row. If you attempt to do this, the screen displays:

```
SORRY, THE KEY TO THIS RECORD HAS NOT BEEN INPUT
```

Meaning that you have not input a new key, so nothing is being saved.

5.2 EDITING

5.2.1 RETRIEVING RECORDS WITH GET

In addition to entering new data on a data entry form, you can call existing records onto the screen and make changes. To call a record onto the screen, you should be in SELECT DATA ENTRY FUNCTION with your form displayed on screen.

1. Press G. The message GET displays, and the cursor moves to the beginning of the element which has been defined as the key, as shown in Figure 5-2.

```
GET


                    ACME MANUFACTURING COMPANY
                       TORRANCE, CALIFORNIA

SALES ORDER #[^]^^^^^^^  BILL TO: ^^^^^^^^^^^^^^^^^^^ ^^^^^^^^^^^^^^^^
                                  ^^^^^^^^^^^^^^^^^^^^^^^^^^^^
CUSTOMER ID # ^^^^^^^^^           ^^^^^^^^^^^^^^^^^^^ ^^^^^^^^^^^^^^^^
                                  ^^^^^


PART #    DESCRIPTION                 QTY        PRICE       EXTENSION
^^^^^^^^  ^^^^^^^^^^^^^^^^^^^^^^^     ^^^   ^^^^^^^^^^^   ^^^^^^^^^^^^^
^^^^^^^^  ^^^^^^^^^^^^^^^^^^^^^^^     ^^^   ^^^^^^^^^^^   ^^^^^^^^^^^^^
                                                         -------------

                                            SUBTOTAL     ^^^^^^^^^^^^^
                                            TAX (6%)     ^^^^^^^^^^^^^
                                                         =============

                                            TOTAL        ^^^^^^^^^^^^^
```

Figure 5-2 Sample GET Screen

2. Enter the key name of the record you want to call onto the screen, and press RETURN.

   a. If JUST ASK recognizes your entry, the record is displayed; that is, the remaining entries on the form are filled in. You can edit the display by moving the cursor to the desired entry, asking for ENTER through the E command, backspacing over the data and entering new data. Or, you can use the CLEAR and DELETE commands described further on in this section.

The following sequence of events occurs when you edit an element. First, JUST ASK displays the element value left-justified. In the case of numerical elements, leading spaces, zeros, and asterisks are removed. Following the displayed value, JUST ASK displays carets for any unused character positions. The cursor is left at the end of the element value as if you had just entered it. You may then delete the entry and retype it entirely, or backspace over it, removing one character at a time until the incorrect portion is removed, and then re-enter that portion. At no time will you be able to enter more characters than were reserved with carets. You indicate that you are through entering an element by hitting the RETURN key. At this time JUST ASK will redisplay the value and remove any unused carets from the screen. The cursor will then move to the next element that is to be entered and this entire sequence will repeat.

b. If JUST ASK does not recognize your entry, one of three possible screens will display. Which screen displays is determined by the setting selected with TOGGLE INITIAL RECORD. This function is also described in Subsection 5.4.1.

5.2.2 CLEAR A RECORD

With the CLEAR command, you can clear all entries and elements from a displayed form, leaving its text and blank elements (carets) on the screen. This command has no effect on the record, which can be recalled to the screen again with GET.

To use CLEAR, you must be in SELECT DATA ENTRY FUNCTION with your form displayed. Press C. The message CLEAR displays momentarily, the entries are cleared, and SELECT DATA ENTRY FUNCTION redisplays.

5.2.3 DELETE A RECORD

The DELETE command lets you delete a record from the file when its key or record number is displayed. You must be in SELECT DATA ENTRY FUNCTION, and the record must exist (you kept it previously) before you will be able to DELETE it.

To use this command, simply enter D. The screen prompts:

```
DELETE? (YES/NO) []
```

Either enter Y and press RETURN to delete the record, or N and RETURN to cancel the DELETE command.

If you answer Y, the record is deleted from your file and can no longer be kept or retrieved. However, it is still displayed, along with SELECT DATA ENTRY FUNCTION, so you should follow DELETE with a GET or CLEAR to remove the deleted record from the display.

5.2.4 EDITING THE ELEMENTS ON THE FORM

After having retrieved an existing record or started to create a new record with the GET function, you may alter the value of any editable element within the form by using the ENTER function. Simply position the cursor on or before the first caret position of the element to be entered or edited. "Before" in this instance means "to the left of" if on the same line or "above" if on a different line. Next Press "E". As with GET, the current value of the element will be displayed left justified. You may then accept this value by pressing RETURN or change it by backspacing and typing the correct value.

In either case, after the RETURN is pressed, the entered value will be checked for one of several conditions. If it passes the check, the new value will be re-displayed and the cursor will jump to the next element specified in the entry order (see Subsections 7.3.6 and 7.3.7). If there is another element, its value will be presented for editing. If the just-entered element is the last one in entry order, the system will return to SELECT DATA ENTRY FUNCTION mode. However, you may return to this mode at any time by pressing CANCEL.

The conditions that are checked for an element are as follows:

If the element is a number, its value will be checked for conformity to the specified format. The value may only contain digits and a decimal point and/or minus sign if it is specified to have these characters. If the value does not conform, it will be rejected; that is, the bell will ring and it must be re-entered.

If the element is a date, its value will be checked to ensure it is valid. For instance, "02/30/83" is invalid because there are not thirty days in February. An invalid date value will be re-displayed as "00/00/00" instead of the entered value.

If the element is a time, its value will be checked to ensure it is valid. For example, "10:61" is invalid because there are only 60 minutes in an hour. An invalid time value will be re-displayed as "00:00:00" instead of the entered value.

The user may impose specific conditions to be checked as described in Subsection 7.3.11 on Data Entry Rules. The action taken on valid or invalid values is then defined by the user.

You may use the ENTER function in place of the GET if you wish to enter or edit the record retrieved. In this case, simply position the cursor on or before the key element of the Form and press E. The current key value may then be edited. When RETURN is pressed, the record will be retrieved exactly as if a GET had been enacted. The difference is that following the retrieval, the cursor will be positioned at the first entry ordered element and be waiting for you to enter or edit it.

5.3 PRINTING

5.3.1 PRINTING WITH ALIGN AND INSERT

When using preprinted forms, you can print out data from a displayed form with the INSERT command. Only the data from the elements is printed.

Typically, the ALIGN function is used in conjunction with INSERT as an aid in lining up forms. ALIGN causes an alignment pattern to be printed out onto line 1 of the form.

Before using INSERT or ALIGN, you should be sure your printer is online with preprinted forms loaded, and the print parameters (lines per inch and characters per inch) properly set. (Also, your form must be displayed on the screen before you use INSERT.)

1. In SELECT DATA ENTRY FUNCTION, press P.

   The screen displays:

   SELECT PRINT FUNCTION

   If you want to use ALIGN, enter A. The following pattern (or a similar one) is then printed out onto line 1:

```
ALIGN=======================ALIGN=======================ALIGN
```

   If this pattern does not line up with the first line of your form, you can adjust your forms manually and repeat the ALIGN function as necessary.

2. Press I. The message INSERT displays while your data is printed, and you cannot use the keyboard until printing has completed.

3. Press Z to change the printer being used. To enact this, change device function (see Subsection 2.1.6.4).

5.3.2 PRINTING WITH PRINT

Alternately, you may print the entire Form, Text, and Data from the elements, on plain paper. To accomplish this, load your printer with plain paper, set the print parameters (Lines Per Inch and Characters Per Inch) and select the PRINT function.

Press P. The message PRINT displays while your form (text and elements) is printed. You cannot use the keyboard until printing has completed.

5.4 CHANGING DISPLAY AND RECORD RETRIEVAL SETTINGS

When you want to display, edit or create a record, the first thing you will do in the data entry mode is call up the data entry form associated with that record you want to address, and then GET the record by the key element name that identifies it.

If the record exists you have the option of editing its elements using the commands ENTER, RETYPE, XOUT, DELETE, and INSERT. These functions are explained in Section 6.4, BUILDING A FREE FORM.

If the record does not exist, you may create it. (The system identifies a non-existent record by flashing the message "THIS RECORD DOES NOT EXIST" on the terminal.) At this point you have the option of creating the record from any one of three starting points. You may modify the INITIAL RECORD, modify any existing record and keep it under the new key, or you may enter a completely new record on the data entry form. You should select the option that requires the fewest keystrokes to get the work done.

An INITIAL RECORD is a general master record which contains your "standard" profile of elements. For example, if you always ship "BEST WAY", then the initial record may contain this response and you will not have to type it as an element for every new record.

If you are creating a series of records that are similar, you should use the last one as a template for the next one. That is you should get the existing record that best matches what you want, modify it, and keep it under the new key.

If you are creating new records that are dissimilar to each other and dissimilar to any existing records, you should have the system clear the data entry form of all previous element data and then type in the new information on the "blank" data entry form.

The following subsection describes how to implement the above options.

5.4.1 TOGGLE INITIAL RECORD

Three editing options are available once the initial record is on your screen and the SELECT DATA ENTRY FUNCTION prompt is displayed:

These selections are as follows:

DISPLAY INITIAL RECORD	Displays the initial or "default" conditions set up for the record, such as zero amount for the ON HAND quantity. Refer to Subsection 7.3.8 for information on initial records.

LEAVE DISPLAY UNCHANGED	Continues to display the previous screen, so that you may position the cursor to the elements that change, or edit them, and keep the record. This selection eliminates the need to reenter repetitive data if you are entering many similar records.
BLANK THE DISPLAY	Displays the message THIS RECORD DOES NOT EXIST, and replaces with blanks (carets) all of the elements on the form except the key element. Cursor moves to top of form. This is usually the suitable choice for editing operations--that is, for record retrieval rather than creation of new records. Refer to Section 6.4 for instructions on editing.

In all three cases, your entry continues to display in the key element and SELECT DATA ENTRY FUNCTION displays at the top of the screen.

To select or change one of these display states, you must be in SELECT DATA ENTRY FUNCTION with your form displayed. Follow this procedure.

1. Enter T. The screen displays:

   TOGGLE INITIAL RECORD

   followed by whichever of the options has previously been selected, or else by the default option, DISPLAY INITIAL RECORD.

2. You can either keep this option by pressing RETURN, or continue to display the options in succession by pressing the spacebar. When the one you want displays, select it by pressing RETURN.

   Thereafter, the display state you selected will remain in effect until you either change it or terminate data entry in the current form.

5.4.2 SELECTIVE RETRIEVAL

With this feature, you can set up a condition under which only certain records--those meeting the condition--will be selected with the GET command. Records which do not "qualify" will be ignored.

For example, when reviewing data in your inventory file, you might want to look at only those items priced over $50.00. You would proceed as follows:

1. In SELECT DATA ENTRY FUNCTION, with your form displayed on screen, press R.

   The screen displays:

```
SELECTIVE RETRIEVAL
CONDITION: IF
```

2. Enter the desired condition and press RETURN. In the example above, you would make the following entry.

```
CONDITION: IF PRICE > 50.00
```

   The condition you entered remains in effect until you either change it or terminate data entry in the current form.

If you then attempt to retrieve a record which does not meet the condition, JUST ASK will respond just as it does when you attempt to retrieve a nonexistent record. That is, the display is as selected with TOGGLE INITIAL RECORD.

For example, suppose you have selected BLANK THE DISPLAY with the TOGGLE INITIAL RECORD command, and you enter the key of a record in the PARTS file whose PRICE field is entered as 10.00. This entry, of course, does not satisfy the condition IF PRICE > 50.00, so JUST ASK will not retrieve the record. Instead, the screen displays the message:

```
THIS RECORD DOES NOT EXIST
```

Any entries or elements previously displayed will be replaced with blanks (carets), and SELECT DATA ENTRY FUNCTION will redisplay.

<u>NOTE</u>: You can retrieve qualified records in sequence--that is, in their physical order on the disk--by repeatedly pressing GET, then RETURN (see Subsection 2.1.10.3).

5.4.3 DUPLICATE KEY RETRIEVAL

Using the GET command, you can sequentially retrieve records having the same key, **if** you invoke this option. If your file contains records with duplicate keys and you do **not** invoke this option, JUST ASK retrieves only the first record found under a specified key.

To invoke this option, you should be in SELECT DATA ENTRY FUNCTION with your form displayed.

Press U. The screen displays:

```
DUPLICATE KEY RETRIEVAL []
```

followed by the default option, NO DUPLICATE KEYS. Bypass this option by pressing the spacebar.

Next, the screen displays:

```
DUPLICATE KEY PERMITTED []
```

Select this option by pressing RETURN.

Duplicate key retrieval remains in effect until you either change it (by selecting NO DUPLICATE KEYS) or terminate data entry in the current form.

<u>NOTE</u>: When in duplicate key retrieval, the key element is not automatically blanked, so you must delete this key element before you enter a new one.

You can display duplicate-keyed records in sequence--that is, in their physical order on the disk--by repeatedly pressing GET, then RETURN (see Subsection 2.1.10.3).

5.5 SPECIAL DATA ENTRY CONDITIONS

JUST ASK's versatility is not limited to forms design. There are countless Data Entry features which may also be built into any Data Entry form.

Many entry design features are "transparent" to the person entering data; that is, they may affect the sequence in which data can be entered, or the elements and messages that display, but they do not require any unusual data entry procedures. Other features (such as password protection) do require special knowledge on the part of the operator. These are described in a general way in the following paragraphs.

5.5.1 PASSWORD PROTECTION

In some cases, individual elements on a form may be password protected. You will not be able to change the contents of such an element until you enter the correct password.

As soon as you give an editing command in the protected element, this message displays:

```
PASSWORD
```

Enter the password and press RETURN.

5.5.2 REJECTED ENTRIES

Some form-building features in JUST ASK allow conditions to be attached to individual elements, causing data entered into those elements to be tested for acceptability. If an entry is found unacceptable--if it does not meet the conditions--one of several results can occur, depending on the features built into the form.

For example, JUST ASK can cause an entry to be rejected if it does not meet certain criteria. That is, the bell rings and the cursor remains stationary until the operator deletes the bad entry and enters an acceptable one.

Suppose a condition has been set up requiring that an entry be numeric only. Any entry made in that element which contained non-numeric characters, then, would be rejected.

Or, a condition may be set which causes JUST ASK to display a query whenever the operator enters data that is not within a specified range. Out-of-range entries cause the screen to display:

```
THIS ENTRY IS OUT OF RANGE. SHOULD IT BE ACCEPTED ANYWAY? (YES/NO) []
```

A YES answer will cause the entry to be accepted. A NO will cause the entry to be rejected, at which time you can either CANcel or backspace over the entry, enter acceptable data, and press RETURN.

Another form-building feature can protect an element against **any** entries. In this case, the element is designated "uneditable" and the cursor cannot be positioned there at all.

5.5.3 VERIFIED ENTRIES

A form may contain a "data verification" feature, requiring totals you enter to match totals calculated by JUST ASK. This provides an automatic double-check of manually-derived figures such as price extensions, tax calculations, subtotals, and grand totals.

When this feature is built into a form, a data entry operation may entail these or similar steps:

1. You enter data (such as items on an invoice) whose totals (such as price extensions) have already been calculated manually.

2. JUST ASK automatically calculates the total and displays this total in the appropriate element, after the last item's amount has been entered.

3. The cursor repositions at the beginning of the total element.

4. You must key in the same total manually, directly over the one displayed. JUST ASK will not allow you to continue until you enter a total that matches its total.

5.6 LEAVING DATA ENTRY

As described in Section 2.1.8, you use CAN to terminate the current mode and return to the previous mode, while you use CTRL + ESC to return as directly as possible to the main JUST ASK menu. Within ENTER DATA, you use CAN mainly in the following situations:

1. To cancel the current function and return to SELECT DATA ENTRY FUNCTION.

2. To clear the current form from the screen and return to the DATA ENTRY FORM NAME: prompt. Remember, when you give this command, that any entries that have not been saved with KEEP will be lost.

The procedure is as follows:

In SELECT DATA ENTRY FUNCTION, with the report form displayed, press CAN. The screen displays:

```
CANCEL? (Y/N) []
```

If you answer Y, the report form is cleared from the screen and the DATA ENTRY FORM NAME: prompt displays. If you answer N--that is, if you have decided you don't want to cancel the current display--your form continues to display and the system returns to SELECT DATA ENTRY FUNCTION.

As mentioned, CTRL + ESC should be used when you want to return to the main JUST ASK menu. If you press CTRL + ESC while your form is displayed in SELECT DATA ENTRY FUNCTION mode, the screen displays:

```
ESCAPE? (Y/N) []
```

As with the CANCEL command, JUST ASK is warning you that you are about to leave the DATA ENTRY mode without KEEPing the current form. If you answer Y, the main menu displays. If you answer N, your form remains on the screen and the system returns to SELECT DATA ENTRY FUNCTION.

SECTION 6 LAYOUT A DATA ENTRY FORM

6.1 INTRODUCTION

In Section 4, you learned how to design a form with which to report on existing data in your files--a **report** form.

The Layout A Data Entry Form procedure described in this section allows you to build another type of form, called a **data entry** form. A data entry form allows you to capture data and insert it into existing files or new files and to edit existing data in existing files.

This section covers the initial procedures for laying out data entry forms, which consist of creating form **text** and **element** areas. Later phases of form building, which involve defining data elements or, possibly, assigning passwords, are covered in Section 7, Special Functions.

There are two types of data entry forms: **free** and **preprinted.** When you build a preprinted form, of course, you design it to match an existing format into which only data was printed, since the form text is preprinted. A free form, on the other hand, is printed out in its entirety--text, data, and all.

The commands and cursor movement functions in LAYOUT A DATA ENTRY FORM are similar to those used in MAKE AN INQUIRY (Section 2.1), and LAYOUT A REPORT (Section 4). Most of these have already been covered in those sections. They are summarized in Table 6-1.

Table 6-1 Commands in Layout A Data Entry Form

	Key	Function
Cursor Movement Commands (see Section 2.1.5)	4	Left
	6	Right
	8	Up
	2	Down
	5 or H	Home
	7	Line Start
	9	Line End
	B	Column
	L	Line
	W	Where
Other Commands (See Sections 2.1 and 4)	CAN	Cancel Form
	CTRL + ESC	Return to Menu
	?	Help
	E	Enter
	R	Retype
	X	XOUT
	D	Delete
	I	Insert
	K	Keep
	P	Print Functions
	T	Toggle Status
	S	Special Functions

The only LAYOUT A DATA ENTRY FORM command which is not applicable to this phase of form building is S, for SPECIAL FUNCTIONS (see Section 7).

6.2 INITIAL STEPS

The first step in building any data entry form is to lay it out on the screen. You must decide where to position your text and element areas, unless you are using preprinted forms. With preprinted forms, you must position your element areas accurately, but you can abbreviate the text.

To build both free and preprinted forms, follow these steps:

1. Select "Layout A Data Entry Form" from the JUST ASK III menu and press RETURN.

   The screen displays:

   ```
   DATA ENTRY FORM NAME: []
   ```

2. Enter the name (up to 8 characters) of the form you are building and press RETURN.

   A name cannot be longer than eight characters, cannot be all numeric, and cannot contain embedded spaces or any of the following "illegal" characters:

   + - * /) (= # > <][,

   Also, JUST ASK reserved words (listed in Section 3) cannot be used as names. Reserved words are special words whose usage is restricted to JUST ASK sentences. They define the output desired and are thus interpreted by JUST ASK as commands.

3. JUST ASK will display "xxxxxx IS NEW" and prompt:

   ```
   FORM WIDTH IN COLUMNS? (80-240) 80 []
   ```

   Since the default width is 80 characters, you can select this width by pressing RETURN. Otherwise, backspace over the number 80, enter the desired number of columns, and press RETURN.

4. JUST ASK prompts:

   ```
   FORM LENGTH IN LINES (2-240) 24 []
   ```

   The default length is 24. Either select this by pressing RETURN or backspace over it, enter a new number, and press RETURN.

5. When the form name, width, and length have been entered, the screen clears and returns to SELECT FUNCTION mode, indicating that JUST ASK is ready for you to enter a command.

6.3 TOGGLE DISPLAY STATES

As an aid for positioning element areas on a data entry form, you can select from three different display states in SELECT FUNCTION. In all three, your form is displayed below the SELECT FUNCTION message and a positioning grid is imposed over it. The three states are NO GRID, COLUMNAR GRID, and FULL GRID. These are described below:

NO GRID DISPLAY	Nothing is added to the form display. The grid is blank. Figure 6-1 shows a sample NO GRID screen.
COLUMNAR GRID DISPLAY	A "ruler" is added to the display above the form. Figure 6-2 shows a sample screen with this state in effect. The ruler serves as a guide in laying out text and element areas on your form. Since the width of the CRT screen upon which the form is being built is limited to 80 characters, but the form can be up to 240 characters wide, this is a particularly useful feature for locating your position in a wide document.
FULL GRID DISPLAY	A grid displays over your form (see sample display, Figure 6-3) as a guide for positioning text and elements. The grid is useful in working with preprinted forms, since you can also print out a version of the grid onto your forms (as described later in this section).

You can change the display state with the TOGGLE GRID command, described below.

In SELECT FUNCTION, with your form displayed, press T. The screen displays:

```
TOGGLE GRID
```

followed by the option currently in effect or the default option, NO GRID DISPLAY. The options can be displayed one after another by pressing the spacebar. When the desired option displays, press RETURN to save it.

The display state you selected then replaces the previous one. This new display state remains in effect until you either change it with the TOGGLE GRID command or terminate LAYOUT A DATA ENTRY FORM.

<u>NOTE</u>: The default option NO GRID DISPLAY is in effect when you first "look" at a new form. The screen is blank except for the SELECT FUNCTION prompt.

```
SELECT FUNCTION

                                PARTS FILE

PART NUMBER:  ^^^^^^^

DESCRIPTION:  ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

PRICE:            ^^^^^^^^^

                                INVENTORY

  ON HAND    COMMITTED     ON ORDER      MINIMUM     MAXIMUM
^^^^^^^^^^  ^^^^^^^^^^^  ^^^^^^^^^^^  ^^^^^^^^^^^  ^^^^^^^^^^^

                              SALES SUMMARY

            NET WORTH          SOLD M-T-D         SOLD Y-T-D
          ^^^^^^^^^^^^^      ^^^^^^^^^^^        ^^^^^^^^^^^
```

Figure 6-1 Sample No Grid Display

```
SELECT FUNCTION

.....010.....020.....030.....040.....050.....060......070......080

PART NUMBER:  ^^^^^^^

DESCRIPTION:  ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

PRICE:        ^^^^^^^^^

                                INVENTORY

  ON HAND    COMMITTED     ON ORDER      MINIMUM     MAXIMUM
^^^^^^^^^^  ^^^^^^^^^^^  ^^^^^^^^^^^  ^^^^^^^^^^^  ^^^^^^^^^^^

                              SALES SUMMARY

            NET WORTH          SOLD M-T-D         SOLD Y-T-D
          ^^^^^^^^^^^^^      ^^^^^^^^^^^        ^^^^^^^^^^^
```

Figure 6-2 Sample Columnar Grid Display

```
SELECT FUNCTION


.....010......020......030......040......050......060.....070......080
..........................PARTS FILE...............................
.......................................................................
PART NUMBER:  ^^^^^^^.................................................
.......................................................................
DESCRIPTION:  ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
.......................................................................
PRICE:  ^^^^^^^^^^.....................................................
.......................................................................
.......................................................................
.............................INVENTORY.................................
.......................................................................
.......................................................................
......ON HAND.....COMMITTED.....ON ORDER......MINIMUM......MAXIMUM....
...^^^^^^^^^^....^^^^^^^^^^...^^^^^^^^....^^^^^^^^^^....^^^^^^^^^^....
.......................................................................
..........................SALES SUMMARY..............................
.......................................................................
...............NET WORTH....SOLD M-T-D....SOLD Y-T-D...................
............^^^^^^^^^^^^....^^^^^^^^^^....^^^^^^^^^^...................
.......................................................................
```

Figure 6-3 Sample Full Grid Display

6.4 BUILDING A FREE FORM

This section describes the steps involved in building a free form--a one-page, one-record data entry form which is printed in its entirety onto blank paper.

Once you have entered the form name and specified its width and length, the next step is to build the form's text and specify the length and location of the element areas.

"Text" refers to that part of a form which is permanent, such as headings, form numbers, and lines. On a free form, text is created on the screen and printed along with the rest of the form. Preprinted forms, of course, already contain the text.

"Element" refers to the variables that are filled into a form. In JUST ASK, an element can either be entered by an operator or be derived automatically from records in a file. The first stages of designing a form do not require you to differentiate between these two types of elements. You merely reserve the areas--i.e, specify their length and location on the form, using strings of carets (^).

6.4.1 BUILDING A NEW FORM

Text and element areas can be created in any order. Therefore, the procedures described below do not need to be followed in the exact sequence in which they are presented. Overall, building a new form involves moving the cursor, entering text, entering elements, saving what you have entered, and, optionally, printing it out. While designing your form, you can use the W ("Where") command to display the line number and column number in which the cursor is located.

As usual, you must be in SELECT FUNCTION when moving the cursor. (For cursor movement commands, refer to Table 6-1, or view the HELP screen by entering a "?".)

6.4.1.1 Entering Text

With the cursor positioned at the desired location, press E (ENTER) and begin entering text. In addition to entering characters, you can embed spaces with the spacebar and erase with the BACKSPACE key.

When you are ready to reposition the cursor, press RETURN or CAN to get out of ENTER mode and back into SELECT FUNCTION.

If you reach the right-hand edge of the form in ENTER, the bell rings and no further entries are accepted. You must press either RETURN or CAN to get back into SELECT FUNCTION, then reposition the cursor.

NOTE: Pressing the RETURN key does not give a new line. To start a new line, you must reposition the cursor in SELECT FUNCTION and get back into ENTER.

6.4.1.2 Inserting Text with ENTER

ENTER can also be used to put in new text, as described below. (The following four steps are illustrated in Figures 6-4 through 6-7.)

1. In SELECT FUNCTION, position the cursor at the point where you want to begin entering new text, and press E (Figure 6-4).

2. The text beyond the cursor moves to the right as far as possible--that is, until it reaches the edge of the form (Figure 6-5).

3. Enter your text, then cancel with CAN or RETURN (Figure 6-6).

   NOTE: You can enter new text characters over existing text characters; no warning will be given. Be careful not to type over text unintentionally.

4. The displaced text then moves back to close up any remaining space (Figure 6-7).

```
SELECT FUNCTION

                              PARTS FILE

PART NUMBER:  ^^^^^^^

[D]ESCRIPTION:  ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

PRICE:         ^^^^^^^^^

                              INVENTORY

   ON HAND      COMMITTED       ON ORDER       MINIMUM      MAXIMUM
^^^^^^^^^^^   ^^^^^^^^^^^   ^^^^^^^^^^^   ^^^^^^^^^^^   ^^^^^^^^^^^

                             SALES SUMMARY

          NET WORTH         SOLD M-T-D        SOLD Y-T-D
      ^^^^^^^^^^^^^^^^^^^
```

```
ENTER

                                PARTS FILE

PART NUMBER:  ^^^^^^^

PART []                                DESCRIPTION:  ^^^^^^^^^^^^^^^^^^^^^^

PRICE:          ^^^^^^^^^

                                INVENTORY

   ON HAND       COMMITTED        ON ORDER        MINIMUM       MAXIMUM
^^^^^^^^^^^    ^^^^^^^^^^^      ^^^^^^^^^^^     ^^^^^^^^^^^   ^^^^^^^^^^^

                              SALES SUMMARY

          NET WORTH          SOLD M-T-D         SOLD Y-T-D
^^^^^^^^^^^^^^^^^^^
```

6.4.1.3 Entering Elements

To specify the location and length of the data elements on your data entry form, position the cursor at the desired location and enter a caret--the "^" character, as shown in the example below:

```
PART NUMBER: ^
```

This tells JUST ASK that an element is beginning, and causes the system to prompt:

```
ELEMENT'S LENGTH (IN COLUMNS):
```

Enter the number of characters the entry is to contain and press RETURN.

JUST ASK then reserves the requested number of spaces as a data area, which appears on the screen as a string of "^" characters:

```
PART NUMBER:  ^^^^^^^
```

An element cannot be typed over. If you attempt to type over an element, JUST ASK responds just as it does when you reach the edge of the form--i.e., the bell rings and your entries are rejected.

The rules for reserving space for elements that will be number areas follow:

To determine the number of carets of an element, start counting character spaces to the left of the decimal point.

If a decimal point will be used in the element:

ADD the number of digits to the right of the decimal point.
ADD one character place for the decimal point.

If the number may be negative:

ADD one if a leading or trailing minus is to be used.
ADD two if parentheses are to be used.

If commas are to be inserted:

ADD the value derived by dividing the digits to the left of the decimal point by three.

For example, if you want a number that looks like

-xxx,xxx.xx

We start with 6 (places left of decimal point)
ADD 2 (places right of decimal point)
ADD 1 (decimal point)
ADD 1 (minus sign)
ADD 2 (commas 6/3)
And reserve 12 columns for the element.

NOTE: Do not attempt to use ENTER to put extra carets into an existing element; JUST ASK interprets these additional entries as a separate field. Instead, you should erase the field (using the editing commands described in subsequent paragraphs) and reenter it.

6.4.1.4 KEEP

When you have finished entering text and elements, it is a good idea to save what you have created up to this point. This way, if you have any problems in subsequent steps, you can cancel the function you're in and get back the earlier version. To save a form, use KEEP.

Also, if you want a printed copy of your form at any point, simply access the PRINT function and press P.

The "KEEP" command is also used to manage disk space when saving a newly created form, editing previously created and saved forms, or when changing the number of records in a file.

When you are ready to keep a newly created form, you should have defined all the elements on the form, according to Subsection 7.3.3, and pressed "K" for "KEEP".

The Data Entry Form Name is displayed. Press RETURN.

The prompt, "YOUR NAME:", is displayed. Key in your name and press RETURN.

The message, "DO YOU WISH SPACE TO BE RESERVED FOR THIS FILE? (YES/NO)", is displayed. If you key in "NO", the screen is cleared and the prompt, "DATA ENTRY FORM NAME:", is displayed. If you key in "YES", the prompt, "VOLUME NUMBER", is displayed.

Key in the number of the volume (drive) you want to use and press RETURN. The prompt, "DISK LABEL SET NAME:", is displayed.

Key in the label set name and press RETURN. The question, "WHAT GROUP OF FILES IS THIS ASSOCIATED WITH?", is displayed.

If you wish to use an existing file set, you can press the "?" key to display a HELP screen listing the file names and the file set of each. Press RETURN to re-display the question, type in the name of the file set, and press RETURN. The prompt, "NUMBER OF RECORDS:", is displayed. Key in the number of records you anticipate needing and press RETURN. The prompt, "DATA ENTRY FORM NAME:", is displayed. The new file is now defined.

NOTE: If the file set you select is full--that is, it already contains the maximum of nine files--the message, "SORRY, FILESET FULL", is displayed. Press RETURN to re-display the "...GROUP OF FILES..." question, and either try a different file set or name a new file set per the following instructions.

If you key in the name of a nonexistent file set and press RETURN, the question "THIS FILESET IS NOT DEFINED, DO YOU WANT TO CREATE IT? (YES/NO)", is displayed.

a. If you do not want to create a new file set, key in "NO" and press RETURN to re-display the "...GROUP OF FILES..." question. You can use the "?" key to display a list of existing file sets.

b. If you do want to create a new file set, key in "YES" and press RETURN. The question, "INCLUDE ANY OTHER FILES? (YES/NO), is displayed.

WARNING: Any file included in the new file set will be removed from its previous file set. You should first create a synonym for the file name (see Appendix B.10) and then use the synonym to answer the "INCLUDE ANY OTHER FILES" question.

1. If you want to add an existing file to your new file set, key in "YES" and press RETURN. The prompt, "NAME:", is displayed. Key in the file name and press RETURN. The "...ANY OTHER FILES..." question is re-displayed. Repeat this step ("i.") until you've specified all the files you'd like to include in your new file set, then proceed to step "ii.".

2. If you do not want to include any (more) existing files in the new file set, key in "NO" and press RETURN. The prompt, "NUMBER OF RECORDS:", is displayed. Key in the number of records you anticipate needing and press RETURN.

The prompt, "DATA ENTRY FORM NAME:", is displayed and the new file and file set are defined.

6.4.1.5 Editing Kept Forms

Any time you make a change to an established ("KEPT") Data Entry Form, you are affecting the existing records in that file. The procedures described in this section are used whenever editing a previously kept Data Entry Form.

6.4.1.5.1 Adding or Deleting Elements

Add or delete the desired elements according to the procedures in Subsections 6.4.1 and 6.4.2. Define any new Elements according to the procedures in 7.3 (you will not be prompted for the file name).

Press the "K" key to "KEEP" the edited form. The prompt, "DATA ENTRY FORM NAME:", is displayed. Key in the form name and press RETURN.

The question, "ARE YOU GOING TO RESTRUCTURE THIS FILE?", is displayed.

a. If you want the existing records to reflect your change, key in "YES" and press RETURN.

   The prompt, "YOUR NAME:", is displayed. Key in your name and press RETURN.

   The message, "RESERVING DISK SPACE FOR RESTRUCTURING...", is displayed briefly, followed by the prompt, "VOLUME NUMBER:".

   Key in the file's volume number and press RETURN. The prompt, "DISK LABEL SET NAME:", is displayed. Key in the label set name and press RETURN.

   The prompt, "NUMBER OF RECORDS", is displayed. Key in the number of records you anticipate using (make sure to include existing records!) and press RETURN.

   The prompt, "DATA ENTRY FORM NAME:", is displayed. Use the "Enter Data" function to add any new information to your restructured records.

b. If you want the change to affect only future records, key in "NO" and press RETURN.

The prompt, "YOUR NAME:", is displayed. Key in your name and press RETURN.

Key in the file's volume number and press RETURN. The prompt, "DISK LABEL SET NAME:", is displayed. Key in the label set name and press RETURN.

The prompt, "NUMBER OF RECORDS", is displayed. Key in the number of records you anticipate using and press RETURN.

The prompt, "DATA ENTRY FORM NAME:", is displayed.

6.4.1.5.2 Deleting Data or Changing the Number of Records

These options are available through the "Layout A Data Entry Form" selection on the JA III Menu.

Key in the form name to the right of "DATA ENTRY FORM NAME:" and press RETURN. Press "K" to "KEEP" the form. The "DATA ENTRY FORM NAME" prompt is re-displayed. Key in the form name again and press RETURN.

The prompt, "YOUR NAME:", is displayed. Key in your name and press RETURN.

The prompt, "VOLUME NUMBER:", is displayed. Key in the file's volume number and press RETURN.

The prompt, "DISK LABEL SET NAME:", is displayed. Key in the label set name and press RETURN.

The prompt, "NUMBER OF RECORDS", is displayed. Key in the desired number of records and press RETURN.

The question, "SAVE THE OLD DATA? (YES/NO)", is displayed.

Key in "YES" and press RETURN to save the existing records, or key in "NO" and press RETURN to delete the existing data.

The prompt, "DATA ENTRY FORM NAME:", is re-displayed.

6.4.2 EDITING A DATA ENTRY FORM

Once you have begun entering a form, you can immediately use the editing commands RTYPE, XOUT, DELETE, and INSERT. (You do not need to keep your form and recall it to the screen.)

If you have already saved your form and want to recall it, select LAYOUT A DATA ENTRY FORM, just as you would when entering a new form. The screen displays:

```
DATA ENTRY FORM NAME: []
```

Enter the name of the form and press RETURN. The header then displays the name of the person who originally created the form (if entered) and the date created, followed by the name of the person who last worked on the form (if entered) and that date. At this point, the system also prompts for form width, just as it did when the form was first entered.

A sample display is shown below:

```
CREATED 04/26/82 BY JB VERSION 001 MADE 04/27/82 BY JOHN
FORM WIDTH IN COLUMNS?(80-240)80 []
```

If you want to change the form width, backspace over the number currently displayed, enter the desired number of columns, and press RETURN. To leave the form width unchanged, simply press RETURN.

<u>NOTE</u>: You cannot make your form narrower than the widest element. This protects you from accidentally losing file elements.

Next, the system replaces the FORM WIDTH prompt with the prompt:

```
FORM LENGTH IN LINES?(2-240)24 []
```

Again, backspace over the current entry and press RETURN or skip by pressing only RETURN.

The form you requested now displays, and the system returns to SELECT FUNCTION mode.

For an existing form, do not decrease the width or length so much that you lose important parts of the form. If you have text in columns 90-100, for example, and you decrease the width to 80, that text will be lost from the form. However, JUST ASK will not allow you to decrease the width of a form if that would result in the loss of a data area (string of carets). If you attempt to do this, JUST ASK will redisplay the FORM WIDTH prompt with width setting large enough to contain the elements.

In SELECT FUNCTION, with your form displayed, you can invoke the editing commands RETYPE, XOUT, DELETE and INSERT. These commands are discussed in Section 4, REPORT FORMS. However, in LAYOUT A DATA ENTRY FORM, JUST ASK is more cautious in its execution of the editing commands.

This is because, once the elements on a form (no matter how incomplete) have been defined and the form saved with KEEP, JUST ASK necessarily assumes that the defined elements are valid, and it keeps track of those definitions. Thereafter, any changes made by you or anyone else to the definitions will cause JUST ASK to display one or another warning message. This is to safeguard your file integrity.

The editing commands and warning messages are described below.

6.4.2.1 RETYPE

This command allows you to replace text characters (not carets) one by one by typing over them. Press R; the RETYPE message displays.

You can retype only to the end of the line. When you reach the end of a line (or the beginning of a data area) in RETYPE, the bell rings and no more entries are accepted. You must press either CAN or RETURN to get back into SELECT FUNCTION.

6.4.2.2 XOUT

The XOUT command (X key) erases unwanted text characters one at a time within a line (one XOUT command erases one text character). With elements, one XOUT command erases the entire string of carets. (The cursor must be positioned on the first caret.) The remainder of the line moves left to fill up the spaces, but subsequent lines do not move up ("wrap").

If you XOUT an element on a form which has been defined and saved with KEEP, JUST ASK displays this message:

```
DO YOU WISH TO REMOVE THIS ELEMENT(S) FROM THOSE
SAVED? (YES/NO) []
```

This message is telling you that you are about to alter your file definition as it currently exists. If you want to change the type of element from string of text to number, you must respond to the prompt with "YES".

a) If you are building a brand new form for which no file has yet been defined--and none of the other forms on your disk contains the element you are removing--you can safely answer "YES". This tells JUST ASK that you are simply rearranging the appearance of your form.

   If you answer "YES", JUST ASK then asks:

```
ARE YOU SURE NO ONE ELSE IS USING IT (THEM)? (YES/NO) []
```

   In other words, are you sure that the element you want to remove is not being used on another form? If you are **not** sure, you should consult your file definition listing (which can be obtained with the LIST KEPT ELEMENTS utility, described in Appendix B). A YES answer causes JUST ASK to remove the element and allows you to continue. A "NO" answer causes JUST ASK to leave the element in.

b) If, however, you are laying out a form to access data from an existing file, you **must** answer "NO" to the REMOVE THIS ELEMENT prompt.

c) If you answer "YES" to the REMOVE THIS ELEMENT prompts, you will be asked if you have created synonyms for this element, that is, other names for it. If you have, you need to remove these also. JUST ASK will prompt with:

```
FIND AND DELETE ELEMENT SYNONYMS ALSO? (YES/NO) []
```

Answer "YES" if you have synonyms for these elements. Otherwise, answer "NO" because this is quite a time consuming process. No harm can come if you inadverently answer "YES", the process will simply take longer.

NOTE: The next time you attempt to KEEP the form, refer to Subsection 6.4.1.5. Restructuring files is a more sophisticated technique than laying out a new form. Before you consider restructuring any files, make sure to read the next Section. However, at this point, since you are simply designing a new form on the screen, you are not endangering files. Answer "NO".

JUST ASK persists:

```
ARE YOU SURE? (YES/NO) []
```

If you do **not** answer "YES", JUST ASK will redisplay the RESTRUCTURE prompt, giving you a second chance. This is another example of the safeguards built into JUST ASK to protect you from damaging your database. A "YES" response will cause your form to be kept and the FORM NAME: message to display.

d) Deleting and/or redefining an element can affect other elements. When an element is deleted and/or redefined, the Data Base Manager's identification number changes. The user needs to ensure that this new number replaces the old one in any expressions, elements in other files, or substrings that reference it. This is accomplished by using the define entry special function on these elements but making no changes. Simply recall each element and new line, or return when each part of the definition is displayed. JUST ASK will then find the new identification number and use it.

6.4.2.3 Delete

The DELETE command deletes an entire line or lines from a form.

With the cursor positioned on the first line you want to delete, press D. The screen displays:

```
DELETE
NUMBER OF LINES? (1-240) []
```

When you enter the number of lines to be deleted and press RETURN, the lines are deleted and the remaining lines move up to fill the space.

As with the XOUT command, if you delete lines containing elements, JUST ASK follows with a series of prompts.

Suppose, for example, that you delete a line which contains several elements. JUST ASK displays the name of **each** element in sequence, followed by the REMOVE THIS ELEMENT prompt, as in this sample display:

```
ELEMENT'S NAME:  ON\HAND
DO YOU WISH TO REMOVE THIS ELEMENT(S) FROM THOSE SAVED?(YES/NO)
```

Respond as described in Subsection 6.4.2.2.

The next time you KEEP this form, refer to Subsection 6.4.1.5. Again, you should respond as described in the previous section.

NOTE: In Section 7 we will discuss the difference between KEPT and NON-KEPT elements. It should be noted here that NON-KEPT elements do not need to be removed and thus you will not be prompted for this choice.

6.4.2.4 Insert

This command inserts an entire blank line or lines into a form. Beginning with the line the cursor is on, INSERT moves existing lines downward by the requested number of lines.

With the cursor positioned at the point at which you want to begin inserting lines, press I. The screen displays:

```
INSERT
NUMBER OF LINES? (1-240) []
```

Enter the number of lines and press RETURN.

NOTE: It is possible to insert more lines than the form was designated to have. For example, if the form length is said to be 24 lines, it is possible to position to line 20 and insert 2 lines. This pushes the previous lines 23 and 24 off the form and moves 20 through 22 down to 22 through 24. The information that was pushed off the form is now lost. If these lines were blank, this causes no problem. If they had information, you may recover them by deleting the 2 lines that you inserted. If you keep the form without doing the delete, however, the information is lost forever. For this reason, it is suggested that a form be defined for sufficient length so that there will be ample room for insertions.

6.5 BUILDING PREPRINTED FORMS

This section describes how to use JUST ASK with preprinted forms. When using preprinted forms, you should primarily be concerned with aligning the data elements so that they print in the correct areas on the form. You should be less concerned with the text portion of the form. The text on the form will probably never be printed. It is simply there to identify the elements during data entry. Therefore, the best approach is to layout all of the data elements on the form and then to position text around these elements as best you can, abbreviating or condensing when necessary.

In order to make the elements on the screen match or line up with the preprinted text on your form, you can display the grid on the screen **and** overprint a preprinted form. You then have a common set of line and column coordinates to reference on the screen and on the form for positioning element areas.

You should also use ALIGN prior to OVERPRINT for printing out a alignment pattern on line 1 of the printed grid. Later, when you are ready to print data onto your forms with the FILL command, you should print the alignment pattern by itself at the top of your preprinted form. If it does not line up precisely with the first line of your form, you can adjust your forms manually and repeat the ALIGN function as many times as necessary.

Before you perform ALIGN and OVERLAY together, you should be sure your printer is **not** set for form feed. If it is, use the CHANGE DEVICE command (one of the PRINT functions) and answer N to the Form Feed request. Also, be sure your printer is online, with the preprinted forms loaded. ALIGN must be done before OVERLAY.

You can display the grid on screen by selecting FULL GRID DISPLAY with the TOGGLE GRID command (see Section 6.3). Procedures for ALIGN and OVERLAY are described below.

6.5.1 ALIGN AND OVERLAY

1. With your form displayed, press P. The screen displays:

```
SELECT PRINT FUNCTION
```

2a. If you do not want to use ALIGN, skip to Step 2b. If you do want to print the alignment pattern, press A.

The following pattern is then printed out onto line 1 of the preprinted form:

```
ALIGN====================ALIGN=====================ALIGN
```

2b. To print the grid, press 0 for Overlay while SELECT PRINT FUNCTION is displayed. The grid immediately prints out. If you did not use ALIGN, the grid is as shown in Figure 6-8. Figure 6-9 shows the printout for ALIGN and OVERLAY used together.

```
001.....010.....020.....030.....040.....050.....060.....070.....080
002.....010.....020.....030.....040.....050.....060.....070.....080
003.....010.....020.....030.....040.....050.....060.....070.....080
004.....010.....020.....030.....040.....050.....060.....070.....080
005.....010.....020.....030.....040.....050.....060.....070.....080
006.....010.....020.....030.....040.....050.....060.....070.....080
007.....010.....020.....030.....040.....050.....060.....070.....080
008.....010.....020.....030.....040.....050.....060.....070.....080
009.....010.....020.....030.....040.....050.....060.....070.....080
010.....010.....020.....030.....040.....050.....060.....070.....080
011.....010.....020.....030.....040.....050.....060.....070.....080
012.....010.....020.....030.....040.....050.....060.....070.....080
013.....010.....020.....030.....040.....050.....060.....070.....080
014.....010.....020.....030.....040.....050.....060.....070.....080
015.....010.....020.....030.....040.....050.....060.....070.....080
016.....010.....020.....030.....040.....050.....060.....070.....080
017.....010.....020.....030.....040.....050.....060.....070.....080
018.....010.....020.....030.....040.....050.....060.....070.....080
019.....010.....020.....030.....040.....050.....060.....070.....080
020.....010.....020.....030.....040.....050.....060.....070.....080
```

Figure 6-8 Printed Grid

```
ALIGN...010.....020.....030ALIGN040.....050.....060.....ALIGN...080
002.....010.....020.....030.....040.....050.....060.....070.....080
003.....010.....020.....030.....040.....050.....060.....070.....080
004.....010.....020.....030.....040.....050.....060.....070.....080
005.....010.....020.....030.....040.....050.....060.....070.....080
006.....010.....020.....030.....040.....050.....060.....070.....080
007.....010.....020.....030.....040.....050.....060.....070.....080
008.....010.....020.....030.....040.....050.....060.....070.....080
009.....010.....020.....030.....040.....050.....060.....070.....080
010.....010.....020.....030.....040.....050.....060.....070.....080
011.....010.....020.....030.....040.....050.....060.....070.....080
012.....010.....020.....030.....040.....050.....060.....070.....080
013.....010.....020.....030.....040.....050.....060.....070.....080
014.....010.....020.....030.....040.....050.....060.....070.....080
015.....010.....020.....030.....040.....050.....060.....070.....080
016.....010.....020.....030.....040.....050.....060.....070.....080
017.....010.....020.....030.....040.....050.....060.....070.....080
018.....010.....020.....030.....040.....050.....060.....070.....080
019.....010.....020.....030.....040.....050.....060.....070.....080
020.....010.....020.....030.....040.....050.....060.....070.....080
```

Figure 6-9 Align and Overlay Printout

6.5.2 BUILDING ELEMENT AREAS

Once you have brought the grid up on the screen and printed ALIGN and OVERLAY (if desired), element areas are built just as they are with free forms. Follow the procedures in Section 6.4, Building a Free Form, keeping in mind the following considerations:

1. Build element areas first, since these must be made to fit into the designated areas on your forms.

   <u>NOTE</u>: If your printer has the compressed print feature and you want to use it when printing onto your form, be sure you select compressed print before doing ALIGN and OVERLAY.

2. Fit in the text as necessary, as a guide for data entry. Remember, text will not be printed.

3. You may want to begin building your form a few lines down from the top, so that, at print time, you can print the alignment pattern above the preprinted area.

SECTION 7 SPECIAL FUNCTIONS

Once you have laid out text and elements on your data entry form, the next step is to assign special characteristics to each element. For example, you need to tell JUST ASK whether the data is to be kept in a file or lost when it leaves the screen. Also, you may want an element to be password protected, to have an initial value, and so on.

This section describes the procedures for assigning these special characteristics to your elements. They are accessed through SELECT SPECIAL FUNCTION mode, described below.

Before beginning this phase of form building, it is a good idea to save what you've already built with KEEP. This way, if you run into difficulties when using SPECIAL FUNCTIONS, you can get back the earlier version.

7.1 SPECIAL FUNCTION MODE

Before you access SPECIAL FUNCTION mode, your data entry form must be displayed on screen with the system in SELECT FUNCTION. Press S.

The screen displays:

```
SELECT SPECIAL FUNCTION []
```

In this mode, functions are selected by simply pressing the key that specifies the desired function. Special functions, which you can view on the SELECT SPECIAL FUNCTION "HELP" screen by entering a "?", are as follows:

KEY	FUNCTION
D	DEFINE ELEMENT
P	PASSWORD
E	ALTER ENTRY ORDER
A	AUTOMATIC ENTRY REORDER
I	SPECIFY INITIAL VALUE
U	CHANGE EDITABILITY
R	DATA ENTRY RULES
F	DEFINE FILE
K	KEEP

Typically, when you select a special function, JUST ASK positions you to the beginning of the closest element below or to the right of the cursor position, and displays an "@" in this position. The cursor itself moves up into the prompt area (header) at the top of the screen. The "@" character moves from one field to the next as you complete the specified function on the element. It serves as a marker to indicate the element currently being acted on.

Before you actually begin defining element characteristics, you should be ready to supply JUST ASK with information about the file which is associated with your form. Two possibilities exist. One, you could actually be creating a new file as you build this form. Two, you could be setting up a new data entry form to access elements from a file which already exists and already has a data entry form. In either case, the first time you use the DEFINE ELEMENT function described in Section 7.3, JUST ASK will begin by requesting the name of the existing file just as it would if you select the DEFINE FILE function.

Suppose that you want to create a new personnel file containing comprehensive records on each employee including name, address, phone, number of dependents, etc., as well as department, job classification, and salary information. In LAYOUT A DATA ENTRY FORM, you could create a form such as the one shown in Figure 7-1, containing all the element names for that file, as well as the length of the data areas. You must now **define** this file.

```
EMPLOYEE FILE

EMP\NO ^^^^^
SS\NO ^^^^^^^^^^^
NAME ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
ADDR1 ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
ADDR2 ^^^^^^^^^^^^^^^^^^^^^^^^^^
ZIP ^^^^^
PHONE ^^^^^^^^^^^^
SEX ^
MARITAL ^
DEPEND ^^
DEPT\NO ^^^
HIREDATE ^^^^^^^^
POSITION ^^^^^^^^^^^^^^^^^
GRADE ^^
PAYCODE ^
RATE ^^^^^^^^^^^
VACATION ^^^
SICK ^^^
```

Figure 7-1 Sample Employee File

On the other hand, if you were creating a form to access some information in an **existing** Employee File--such as a Corporate Contact List containing name, address, and department information only--you would merely reference the existing file and not define any new elements. (A sample Corporate Contact List is shown in Figure 7-2.)

One point to keep in mind if you attempt to define elements on a form which is referencing an existing file: all existing records of information in that file will be out of date because they lack the new elements. You should restructure the file, as described in Subsection 6.4.1.5, so that blank values will be inserted into the record for these elements. You may then use your new form to enter the real value that these elements should have.

```
CORPORATE CONTACT LIST

DEPT. NUMBER ^^^

NAME ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

ADDRESS ^^^^^^^^^^^^^^^^^^^^^^^^^^^^

CITY & STATE ^^^^^^^^^^^^^^^^^^^^^^^^

ZIP ^^^^^
```

Figure 7-2 Sample Corporate Contact List

7.2 CHANGING FILE PASSWORDS AND LABEL SET NAMES

To change file passwords or label set names, follow these steps:

1. In SELECT FUNCTION, enter S to access SELECT SPECIAL FUNCTIONS.

2. Enter F for DEFINE FILE. The screen displays:

```
DEFINE FILE
FILENAME: EMPLOYEE
PASSWORD
```

Figure 7-3 Sample Define File Screen

3. Enter or change your file password if using one. If not using a password, skip this entry by pressing RETURN. The password does not display on the screen.

   NOTE: The file password is intended to prevent an operator from gaining unauthorized access to a file's contents. It is not designed for programmer-level file security.

4. The prompt, "DISK LABEL SET NAME", is displayed.

   Enter or change the label name of the diskette or image on which the file resides, or skip this element by pressing RETURN.

   The form is re-displayed.

7.3 DEFINING ELEMENTS AND/OR A FILE

In this function, JUST ASK displays a series of prompts through which the elements on a form are defined. You must supply such information as whether the element is KEPT (on the disk in a file) or NON-KEPT (intended for temporary usage only). If NON-KEPT, you must specify whether numeric or non-numeric, system date or system time; if KEPT, you supply the name, type of element, and additional information depending on the type of element. Whenever defining the first KEPT element in a new form, you must define the file as well.

7.3.1 ACCESSING DEFINE ELEMENT

To access DEFINE ELEMENT, you must first be in SELECT FUNCTION mode with your form displayed on the screen. Access SELECT SPECIAL FUNCTION by pressing S. When in SELECT SPECIAL FUNCTION, press D to access DEFINE ELEMENT.

In DEFINE ELEMENT, the screen displays an "@" character at the beginning of the next element on your form, and, in the heading, the prompt DEFINE ELEMENT followed by one of the two available options, NON-KEPT ELEMENT and KEPT ELEMENT. The default option, NON-KEPT ELEMENT, will display if the element has not previously been defined. If it has been defined as a KEPT ELEMENT, then that option displays first.

As noted previously, the "@" character serves as a marker indicating the element currently being defined. When one element definition is complete, the "@" moves to the beginning of the next element to be defined. Pressing RETURN selects the option currently displaying, moves the "@" to the beginning of the next element, and causes the next prompt to appear. This continues until you cancel or the last element on the form is processed.

7.3.2 NON-KEPT ELEMENTS

A NON-KEPT ELEMENT is an entry that is to be made by the operator, and not KEPT in a file; that is, it is lost when it leaves the screen. If you want the element currently indicated by the "@" character to be NON-KEPT, press RETURN in response to the NON-KEPT ELEMENT display. Otherwise, press the spacebar to display KEPT ELEMENT, press RETURN to select it, and proceed to Subsection 7.3.3.

When you press RETURN to select the NON-KEPT ELEMENT option, one of the four options displays. You can display the options in sequence by pressing the spacebar, and select the one you want by pressing RETURN.

The options are:

STRING OF TEXT
NUMBER
DATE
TIME

A **string of text** can be any allowable combination of characters. A **number** must not have a decimal point, and can be up to 14 digits long.

NOTE: If the NON-KEPT ELEMENT is to be a number you can indicate this by typing "@" instead of "^" during the function "ENTER" or "RETYPE".

Date and **Time** refer to "System Date" and "System Time"; if you select one of these, JUST ASK automatically supplies the current date or time during data entry.

NOTE: The format for System Date is MM/DD/YY, and for System Time, HH:MM:SS. These are discussed more fully in Section 4.

7.3.3 KEPT ELEMENTS

If, instead of NON-KEPT ELEMENT, you select KEPT ELEMENT, you must then respond to a series of prompts to supply information about the element. As you answer one prompt and press RETURN, the next one displays. These prompts are described below in the order in which they appear.

7.3.3.1 File Name

The first time you select KEPT ELEMENT, the screen displays:

```
What is the name of the file that contains the data? []
```

Enter the name of the file from which the data is to be drawn and press RETURN. (You may be building the file at this time, or referencing a file that already exists.)

a. If JUST ASK recognizes the file name you entered, it then prompts for the name of the element. Skip to 7.3.3.2, "ELEMENT'S NAME."

b. If JUST ASK does not recognize the file name, it displays the prompt, "PASSWORD". Enter or change the file password, or press RETURN if you don't want to password protect the file.

The prompt "DISK LABEL SET NAME", is displayed. Key in the label set name of the diskette(s) or image(s) on which the file resides.

Define the remainder of the elements per the instructions beginning in Subsection 7.3.3.2. Then "KEEP" the Data Entry Form (refer to Subsection 6.4.1.4.1).

7.3.3.2 Element Name

Once a valid element name has been entered, the system prompts:

```
ELEMENT'S NAME: []
```

An element name cannot be longer than eight characters, cannot be all numeric, and cannot contain embedded spaces or any of the following "illegal characters".

+ - / * # ( ) , []

If you attempt to use one of these characters, JUST ASK will not accept it.

Also, JUST ASK reserved words (listed in Section 3) cannot be used as names. Reserved words are special words whose usage is restricted to JUST ASK sentences. They define the desired output and are thus interpreted by JUST ASK as commands.

Enter the element name and press RETURN. If the element already exists in the file, JUST ASK skips to the next entry on the form. If it is a new element, the prompts continue.

7.3.3.3 Column Heading

This refers to the heading you would use for this element when reporting on the file with a JUST ASK sentence, as described in Section 3 of this manual. The column heading cannot be longer than the data area being defined.

The system prompts:

```
COLUMN HEADING: []
```

followed by that portion of the element's name which will fit in the defined data area. For example, a five-character zip code element named ZIP\CODE would display as:

```
COLUMN HEADING: ZIP\C
```

Either accept the displayed column heading by pressing RETURN or backspace over it and enter a new one, then press RETURN.

7.3.3.4 Type of Element

Once you have entered the column heading, JUST ASK prompts:

```
TYPE OF ELEMENT:
```

followed by one of ten available options. The default option, STRING OF TEXT, will display if the element has not previously been defined. If it has been, then the option selected for this element displays first. The nine possible element types are as follows:

1. STRING OF TEXT
2. NUMBER
3. DATE
4. TIME
5. KEY
6. RECORD NUMBER
7. CALCULATION
8. ELEMENT FROM ANOTHER FILE
9. SUBSTRING OF ELEMENT

NOTE: You can display a HELP screen listing these element types by entering a "?".

To display the series of options one at a time, press the spacebar until the desired element type displays, then select it by pressing RETURN. You can also select an option by entering its number in the series. For example, 7 selects CALCULATION.

Depending upon which type of element you specify, JUST ASK may request additional information. The required input for each element type is described below.

7.3.4 DEFINING SAVED ELEMENTS

This section describes the procedures for defining the nine possible types of saved element.

7.3.4.1 String of Text

This refers to both alphabetical and alphanumeric elements. If you select this element type, JUST ASK requests no further information and positions you to the beginning of the next data area on your form.

7.3.4.2 Number

When you select NUMBER, JUST ASK prompts:

```
OF THE FORMAT -XXXXXXX
```

where -XXXXXXX represents the default numerical format. The leading minus sign means that a minus sign will appear if the number is negative. The length of the string is equal to the number of characters specified for the current data field. Thus, a six-character numeric field would evoke this display:

```
OF THE FORMAT:  -XXXXX
```

You can accept the displayed format by pressing RETURN or edit it by backspacing over it and entering your own format.

Acceptable characters include:

- Decimal point
- Minus sign or parentheses (indicates negative accounting values)
- Commas

In addition, you can enter a leading Z to pad the number with leading zeros, or a leading asterisk (*) to pad with leading asterisks.

The next prompt will be:

```
LOCATIONS OCCUPIED:
```

JUST ASK makes an estimate as to how many locations (digits) this member will occupy in the record according to the format you specify. You should not change this number--just press RETURN to continue.

The number of locations can only be edited when the element is initially defined. It cannot be changed once your response has been entered. To change it then, you must delete the element and reenter it.

7.3.4.3 Date

When you specify an element for date, the system prompts:

```
OF THE FORMAT
```

followed by one of these three date format options:

```
MM/DD/YY        MM is Month
DD/MM/YY        DD is Day
YY/MM/DD        YY is Year
```

You can display the date options one at a time by pressing the spacebar. Press RETURN to select the one you want.

7.3.4.4 Time

When you identify an element as TIME, JUST ASK automatically gives it the format HH:MM:SS (hours, minutes, and seconds) at data entry time.

7.3.4.5 Key

If you are building a file, you must indicate which element is the key so that JUST ASK can use it to access the file during data entry. Once you have identified the key element, JUST ASK requests no further information and positions you to the beginning of the next entry on your form. Only one key may be identified on a form.

7.3.4.6 Record Number

The record number, which can be an integer up to six digits long, identifies the physical position of the record in the file. When you identify an element as the RECORD NUMBER, JUST ASK requests no further information and takes you to the beginning of the next entry on your form. Only one record number may be identified on a form.

7.3.4.7 Calculation

You can specify that the contents of an element be derived from a calculation. When entering the calculation, you can either enter numerical values or specify numeric elements that are already defined. Suppose, for example, that you are building an invoice form using a file called INVOICE as shown in Figure 7-4.

```
                    ACME MANUFACTURING COMPANY
                       TORRANCE, CALIFORNIA

SALES ORDER # ^^^^^^^^      BILL TO: ^^^^^^^^^^^^^^^^ ^^^^^^^^^^^^^^^^
^^^^^^^^^^^^^^^^^^^^^^^^^^
CUSTOMER ID # ^^^^^^^^                ^^^^^^^^^^^^^^^^ ^^^^^^^^^^^^^^^^
^^^^^

PART #    DESCRIPTION                QTY        PRICE        EXTENSION
^^^^^^^^  ^^^^^^^^^^^^^^^^^^^^^^^^   ^^^    ^^^^^^^^^^^    ^^^^^^^^^^^^^^
^^^^^^^^  ^^^^^^^^^^^^^^^^^^^^^^^^   ^^^    ^^^^^^^^^^^    ^^^^^^^^^^^^^^
                                                          --------------

                                          SUBTOTAL        ^^^^^^^^^^^^^^
                                          TAX (6%)        ^^^^^^^^^^^^^^
                                                          ==============

                                          TOTAL           ^^^^^^^^^^^^^^
```

Figure 7-4 Sample Invoice Form

You could tell JUST ASK to multiply the amount in the QTY element by the amount in the PRICE element and output the total in the EXTENSION element. Or you could have the SUBTOTAL element added to the TAX element to derive the TOTAL. These examples use values from existing numeric elements in the INVOICE file. You could also have JUST ASK calculate the TAX field by multiplying the SUBTOTAL element by .06.

Available operations are addition (+), subtraction (-), multiplication (*), and division (/). Parentheses may be used to group the operations; otherwise, calculations are performed from left to right.

NOTE: Be aware when calculating percents that JUST ASK stores decimal numbers as whole numbers. Therefore, when you use decimal numbers in your calculations, adjust for this by moving the decimal point to the left or dividing by 100.

For example, if you want to calculate a 10% increase for a numeric element called RATE, your calculation could read:

```
RATE * 110/100
```

When you select CALCULATION, JUST ASK prompts:

```
OF THE FORMAT
```

followed by the default numerical format -XXXXXX containing the same number of characters as the element being defined. Either edit this format (see explanation of formats under "NUMBER") or accept it by pressing RETURN.

JUST ASK then prompts:

```
CALCULATION:
```

Enter the desired calculation and press RETURN. Examples of valid calculations in the INVOICE file are:

```
CALCULATION:  QUANTITY * PRICE
CALCULATION:  SUBTOTAL + TAX
CALCULATION:  (SUBTOTAL * 0.06) /100
```

If you enter elements that are undefined, an error message displays. Press RETURN to redisplay your entry, backspace over it, and enter valid elements.

Aside from the minus sign or the number of digits, elements used in a calculation must be the same numerical format as the calculation. For example, the following formats are viable:

NUMBER ELEMENTs		CALCULATION
-XXXXX + XXX	=	-XXXXXXX
X.XX * -XX.XX	=	-XXXX.XX

The following formats are <u>not</u> viable.

NUMBER ELEMENTs		CALCULATION
X,XXX + XXXX	=	XXXX.XX
XXX + XXX + XXX	=	X,XXX

Once you have entered a valid calculation, JUST ASK positions you to the beginning of the next data element to be defined.

7.3.4.8 Element from Another File

When you want to use data from another file to fill in an element on your form, use this function to equate the element from that file to the element you are currently defining.

Suppose, for example, that in building your invoice you do not want to duplicate your customer information, but use the names and addresses already contained in a file called NAMES, keyed by customer number. Further, your inventory and pricing information already exist in a file called PARTS. In your invoice you simply want to refer to the customer number and have the name and address filled in, and to refer to the part number and have the description and price filled in.

<u>NOTE</u>: Before defining an element as an element from another file, you must "KEEP" the Data Entry Form. Unless you "KEEP" the Form, JUST ASK does not know to which file set the element from the other file should be transferred.

<u>Procedure</u>

1. When the "@" character is positioned at the beginning of the element which you want to specify as an element from another file, select ELEMENT FROM ANOTHER FILE from the TYPE OF ELEMENT options.

   JUST ASK then prompts for three responses in succession, as follows:

Prompt	Required input
USING ELEMENT	Field in current file which matches key or record number in other file
TO SEARCH FILE	Name of other file
FOR ELEMENT	Element to be drawn from other file

2. Respond to each prompt, pressing RETURN after each response.

   Thus, to move the street address from the NAMES file onto your invoice form, you could, when defining the STREET element on your invoice, respond to the prompts as follows:

```
USING ELEMENT CUST\NO   TO SEARCH FILE NAMES    FOR ELEMENT STREET
```

   where CUST\NO is the element in the INVOICE file whose value matches the value of a Customer Number key in the NAMES file, and STREET is the element to retrieve from the NAMES file.

   Then, to fill in the price of the parts on the invoice, you would respond to the prompts this way:

```
USING ELEMENT PART\NO   TO SEARCH FILE PARTS    FOR ELEMENT PRICE
```

   where PART\NO is the element in the INVOICE file whose value will match the value of a Part Number key in the PARTS file, and PRICE is the element you want to use from that file.

3. If JUST ASK does not recognize the elements you enter, the bell rings and the prompts will be redisplayed. Backspace over the invalid entry, enter a valid entry, and press RETURN.

   If your entries are valid, the element definition is accepted and JUST ASK positions you to the beginning of the next data element.

   NOTE: You cannot use a calculation as an element from another file. Use of record numbers for specifying an element from another file is not recommended.

7.3.4.9 Substring of Element

You can define an element as a substring of another element in the same file or another file. A substring can begin and end at any point in an element, as long as it consists of contiguous characters.

For example, you might want an element to consist of only the first three digits of a zip code.

In this case, you would set up your data element to be three characters long (^^^), beginning with the first position of the five-digit zip code element.

When you select SUBSTRING, JUST ASK requests the name of the element containing the element from which the substring is to be drawn, with the prompt:

```
IN ELEMENT []
```

Enter the name of the element and press RETURN. Next, the screen displays:

```
STARTING AT POSITION []
```

Enter the position number in the element where the substring begins, and press RETURN.

NOTE: The substring element can be from a numeric element as well as an alphanumeric element. For example, a substring can be defined as the cents portion of a dollar and cents number.

7.3.5 PASSWORD

You can password-protect any saved element on a form with the Password feature in SELECT SPECIAL FUNCTION mode. Each element can have a different password, or passwords may be shared. A password-protected element cannot be edited without supplying the password.

Non-saved entries cannot be password-protected.

NOTE: The password is intended to prevent an operator from making unauthorized changes to a protected element. It is **not** designed for programmer-level security.

In SELECT SPECIAL FUNCTION, with the "@" positioned at the beginning of the element you want to password-protect, press P.

The screen displays:

```
PASSWORD []
```

Enter your password and press RETURN (the password does not display as you type).

Your password entry is then complete.

NOTE: To change the password, you must first enter the correct password to access the element, then proceed as described above. To remove the password, press RETURN in response to the PASSWORD prompt.

7.3.6 ALTER ENTRY ORDER

As a form is built, JUST ASK assigns sequential numbers to the elements as they are built, beginning with 1. (The highest possible number is 9999.) JUST ASK follows this order as it positions you from one element to the next during data entry.

A break in the numerical sequence of elements stops the automatic sequencing in data entry. Thus, if your form is divided into segments and you want to build in automatic "breaks," you can skip a number between segments, or enter an out-of-sequence number.

The order can be changed, in SELECT SPECIAL FUNCTION, with Alter Entry Order. The procedure is as follows:

In SELECT SPECIAL FUNCTION, with your form displayed on the screen, press E. The screen displays:

```
ALTER ENTRY ORDER
ENTRY NUMBER
```

followed by the entry number of the current element (indicated with "@"). This will be entry number 1 if the cursor was positioned before the first entry when you pressed E.

NOTE: You can **display** the current entry numbers in each element, one at a time, by pressing RETURN repeatedly.

To change the entry order of the element at which you are currently positioned, just backspace over the displayed entry number, enter the new entry number, and press RETURN.

The "@" then moves to the next element in the sequence if there is one, and displays its entry number.

> WARNING: **JUST ASK does not adjust entry numbers automatically. If, for example, you change entry number 3 to entry number 4, JUST ASK will still consider the next element after it to be number 4 until you either change it or use AUTOMATIC ENTRY REORDER (see next paragraph). Therefore, be very careful, when using this function, not to have duplicate entry numbers, as this will result in skipped entries during data entry.**

7.3.7 AUTOMATIC ENTRY REORDER

With this selection, you can restore the elements on your form to a sequential order that moves from the upper left hand corner of the form to the lower right hand corner.

In SELECT SPECIAL FUNCTION, press A. The screen displays:

```
ARE YOU SURE? (YES/NO) []
```

Answer Y. JUST ASK then renumbers the elements. Starting in the upper left hand corner, it assigns sequential numbers to the elements as it encounters them going left to right down the form. Old and new entry numbers display momentarily as they are reordered, as in this example:

```
ENTRY NUMBER 005   NEW ENTRY NUMBER 004
```

7.3.8 SPECIFY INITIAL VALUE

An initial or default value can be assigned to a KEPT element on a form. This value can then be displayed for that element during data entry whenever a new record is being created, thus allowing the operator to either accept the displayed value by pressing RETURN or backspace over the value and change it.

For example, an invoice form might include a KEPT ELEMENT entitled TERMS. If the most frequently used terms are NET 30 DAYS, this could be specified as the initial value. NET 30 DAYS would display when a new invoice form is being created and the display INITIAL RECORD option is in effect as described in Subsection 5.4.1.

To specify an initial value, you should be in SELECT SPECIAL FUNCTION mode with your form displayed on the screen. Press I.

The system prompts:

```
HAVE YOU KEPT THIS VERSION OF THE FORM? (Y/N)
```

The system is determining if it recognizes your form, or if you have made changes to it which you have not yet kept. If you have not made changes, enter Y and proceed. If you have made changes, enter N and JUST ASK will return you to SELECT SPECIAL FUNCTION. At that time KEEP the form, GET it again, return to this question and enter Y.

Following the entry of Y, the form will be redisplayed with the previous initial values if any exist. JUST ASK will then move from KEPT ELEMENT to KEPT ELEMENT allowing you to enter a new value or edit the existing value. If you do not want to assign a value to an element, press RETURN, and no initial value will be assigned.

Following the enter or edit of the last KEPT element on the form JUST ASK will save the initial record and return to the SELECT SPECIAL FUNCTION mode.

<u>NOTE</u>: You do not need to assign initial values of zero for numeric elements or null for alphanumeric elements. These are the default, initial values for elements and are ignored if entered.

7.3.9 INITIAL RECORD LIMITATION

With the SPECIAL FUNCTIONS, a user has the ability to specify initial values that should be assigned to elements in non-existent records. There is one limitation on specifying these initial values: the form must be KEPT in its current form before the values can be assigned. The data entry facility is used to assign these values. As such, the access record is needed to portray the record as it is currently defined. The current access record will not be automatically stored by JUST ASK each time a change is made, because the user may decide to escape or cancel out of the form at a later time. Thus, prior to assigning initial values make sure that the element definitions in their current form have been KEPT.

It should be noted that the initial value is kept in an initial record and executing the initial value function KEEPS this record. Any subsequent escaping or canceling of the form does not affect this new initial record.

7.3.10 CHANGE EDITABILITY

Certain conditions governing data entry can be set up for any element on a form. When you attach one of these conditions to an element, that condition places or removes certain restrictions upon the data.

The five available options are as follows:

Option	Condition
1. Editable	Operator can edit the value in this element. (Cannot be used with an element defined as a CALCULATION, SUBSTRING, or ELEMENT FROM ANOTHER FILE.)
2. Uneditable	Operator cannot edit the value in this element.
3. Incremental	The number entered by the operator will be added to or subtracted from the value in this element. (Can be used only with an element defined as a NUMBER.)
4. Verifiable	The value entered by the operator must exactly match the value inserted in this element by JUST ASK. This feature is useful for verifying price extensions and other calculations.
5. Numeric Only	The string of text must be all numeric. (Cannot be used with an element already defined as a NUMBER.)

Once you attach a condition to an element, that condition remains in effect until you change it.

For example, if you specify that an element be uneditable, a data entry operator will not be able to edit the element until you change it to "editable".

To select one of the EDITABILITY options for a particular element, you should be in SELECT SPECIAL FUNCTION with your form displayed on the screen. With the cursor positioned at the beginning of the desired field, press U. The screen displays:

```
CHANGE EDITABILITY
EDITABILITY:
```

followed by one of the five options. (The default option is EDITABLE.) The remaining four options can be displayed sequentially by pressing the spacebar. When the desired option displays, select it by pressing RETURN.

7.3.11 DATA ENTRY RULES

With this function, you can associate certain conditions with an element. The conditions are tested when the element is entered/edited in Data Entry. Along with the conditions, you can build in various commands to be executed by JUST ASK when the conditions are satisfied. When the conditions are not satisfied, the commands have no effect.

Each combination of conditions and commands makes up a data entry "rule", which governs how the form is handled at data entry time.

For example, you might want JUST ASK to reject certain types of entries made by the operator--those which fall outside an acceptable range. Suppose you only want items entered into your INVENTORY file whose prices are between $25.00 and $200.00. You could impose a data entry rule in the PRICE field which would limit acceptable entries to those in the appropriate range.

This is how the rule would read:

```
IF PRICE < 25.00 OR PRICE > 200.00
REJECT
```

Then, if the operator tried to enter $10.00 or $300.00 in the PRICE field, the bell would ring and the entry would be rejected.

As this example illustrates, conditions are set up with an ordinary JUST ASK phrase--the IF phrase. JUST ASK phrases are covered in detail in Section 3; however, if you keep in mind that you are merely setting up a test to select certain entries and ignore others, you should find this operation quite straightforward. The command, REJECT, is one of eleven commands available with DATA ENTRY RULES. You can associate as many commands as you like with each condition, and you can set up multiple conditions in a field.

The commands are as follows:

NO COMMAND	(The default.) Signifies no commands in effect. At the end of a series of commands, signifies no **further** commands in effect.
REJECT	Causes the bell to ring, the entry to be rejected, and the cursor to reposition at the beginning of the element.
QUERY	If the data is not within a given range (specified in the condition) the screen displays a message asking whether or not to accept the entry. A YES response will cause the entry to be accepted. A NO entry will cause it to be rejected as described above.
START OVER	Clears all entries from the form and repositions the cursor to the beginning of the first entry.
RETURN TO MENU	Terminates data entry operation and escapes to the main menu.
KEEP	Saves the record as entered up to this point.
SKIP TO	Skips from the current entry to the one specified.

NOTE: If the entry order has been changed with ALTER ENTRY ORDER, you must take the current order into consideration when assigning skipped entries. You will most likely need to refer to the printout produced with LIST KEPT ELEMENTS (see Appendix B.2) when using this command.

CLEAR	Clears the specified entry from the screen.
DISPLAY	Displays the value of the specified entry.
VALIDATE	Checks to see if a record exists in the specified file with a key or record number that matches that entry. If the record does not exist, the entry is rejected as described above. If it does exist, the entry is accepted.
GOSUB	Allows CADOL subroutines to be accessed through the form. Only the following resources should be used by the subroutine: registers N - N18 any alpha register any flag R, W, Y buffers X buffer (contains current data record) For additional information on GOSUB, see Appendix C, Programmer's Notes.
REPLACE	Changes the value of an entry to a value specified.

From this list of commands, you can see that there are countless possibilities for setting up data entry rules when you design a form.

The procedures for setting up data entry rules are described in the following paragraphs.

Procedure

In SELECT SPECIAL FUNCTION, with your form displayed, position the cursor at the beginning of the field in which you want to set up data entry rules. Press R.

The form disappears from the screen (just as it does when you request the HELP screen) and is replaced with this display:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) []
 UNCONDITIONALLY
 NO COMMANDS                    POSSIBLE COMMANDS
                                0 - NO COMMAND
                                1 - REJECT
                                2 - QUERY
                                3 - START OVER
                                4 - RETURN TO MENU
                                5 - KEEP
                                6 - SKIP TO
                                7 - CLEAR
                                8 - DISPLAY
                                9 - VALIDATE
                                A - GOSUB
                                B - REPLACE
```

NOTE: This is the default display. If any data entry rules have already been set up, they are shown instead.

The commands are listed on the right side of the screen alongside their selection codes (i.e., pressing B selects the REPLACE command). The prompts appear on the left side.

This initial display means, "No conditions and no commands are in effect. Is this the way you want it?"

If you answer YES, the DATA ENTRY RULES screen disappears and your form reappears on the screen.

If you answer NO, JUST ASK positions you to the beginning of the UNCONDITIONALLY field (using the "@" character) and again requests you to answer the CORRECT? query. The screen is as shown:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) []
@UNCONDITIONALLY
 NO COMMANDS
```

This display means: "Do you want the following commands executed UNCONDITIONALLY?--under any and all conditions?"

If so, type Y, and JUST ASK positions you to the COMMANDS line. If your answer is NO and you want the rule conditional, type N. The screen displays:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) N
@CONDITION:  IF
 NO COMMANDS
```

Whenever the system prompts

```
@CONDITION: IF
```

you can enter an IF phrase to build a condition.

Enter your IF phrase and press RETURN. (Example: IF PRICE < 25.00 OR PRICE > 200.00.)

Thus, to respond to the first line, you either answer YES to select UNCONDITIONALLY, or you answer NO to build your own condition with an IF phrase.

Once you have completed this response, JUST ASK moves you to the next prompt, NO COMMANDS:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) []
 UNCONDITIONALLY
@NO COMMANDS
```

JUST ASK is saying, "No commands are in effect. Is this the way you want it?" To select a command, of course, you must answer NO.

The screen then displays:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) N
 UNCONDITIONALLY
@COMMAND:  NO COMMAND

                                        POSSIBLE COMMANDS
                                        0 - NO COMMAND
                                        1 - REJECT
                                        2 - QUERY
                                        3 - START OVER
                                        4 - RETURN TO MENU
                                        5 - KEEP
                                        6 - SKIP TO
                                        7 - CLEAR
                                        8 - DISPLAY
                                        9 - VALIDATE
                                        A - GOSUB
                                        B - REPLACE
```

The COMMAND prompt is now in effect, as indicated by the presence of the "@" character at the beginning of the COMMANDS line. NO COMMAND is the default selection.

A command can be selected in one of two ways: One, you can press the spacebar to display the commands one by one, in sequence, following the COMMAND: message. Two, you can simply enter the character (0 through B) which corresponds to that command.

The selected command then displays, as in this sample screen:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) N
 UNCONDITIONALLY
@COMMAND:  SKIP TO
```

At this point, you can either select the displayed command by pressing RETURN, or else replace it with another command as described above.

Some of the commands, such as REJECT and QUERY, require no additional input. Others require you to supply more information. For example, when you select SKIP TO, you need to provide JUST ASK with the entry number. Whenever additional information is needed, JUST ASK prompts for it, as in this example:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) N
 UNCONDITIONALLY
@COMMAND:  SKIP TO ENTRY # 1 []
```

To specify the desired entry number, backspace over the 1, type the entry number, and press RETURN.

Next, JUST ASK gives you a chance to select additional commands, by moving the "@" to the next line:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) []
 UNCONDITIONALLY
 COMMAND:  SKIP TO ENTRY #  5
@
```

Again, you must respond to the CORRECT? prompt. A YES response tells JUST ASK that the current line is acceptable (that is, you want no additional commands). This completes the current data entry rule and causes the form to reappear on the screen.

A NO means you want to make a change to that line. When you answer NO, the screen displays:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) N
 UNCONDITIONALLY
 COMMAND:  QUERY
@COMMAND:  NO COMMAND
```

Here, NO COMMAND means "end of commands". If you press RETURN, your data entry rule is complete (just as if you had answered Y in the previous step).

However, if you want to add another command, select it at this time (either by entering the command selection code or by repeatedly pressing the spacebar until you reach the desired command and selecting it with RETURN).

So far, only the YES and NO responses have been described in building data entry rules. To summarize: YES tells JUST ASK to leave the current condition or command line unchanged ("yes, it's correct as displayed"). NO tells JUST ASK that you want to change the current line.

One other command, DEL, is available. The DEL command, which you give by typing the letters D-E-L, is used to delete individual commands from a data entry rule.

Suppose, for example, that you have set up the following data entry rule:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) []
 UNCONDITIONALLY
 COMMAND:  VALIDATE FILE #  2
 COMMAND:  DISPLAY ENTRY #  15
 COMMAND:  DISPLAY ENTRY #  17
 COMMAND:  SKIP TO ENTRY #  16
```

Suppose, further, that you want to delete the next to the last command, which reads:

```
DISPLAY ENTRY #  17
```

You would need to answer Y to the CORRECT? prompt for each line until the "@" was positioned at the line you want to delete:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) []
 UNCONDITIONALLY
 COMMAND:  VALIDATE FILE #  2
 COMMAND:  DISPLAY ENTRY #  15
@COMMAND:  DISPLAY ENTRY #  17
 COMMAND:  SKIP TO ENTRY #  16
```

Type DEL and press RETURN.

The line is then deleted, and the rule reads as follows:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) []
 UNCONDITIONALLY
 COMMAND:  VALIDATE FILE #  2
 COMMAND:  DISPLAY ENTRY #  15
@COMMAND:  SKIP TO ENTRY #  16
```

As mentioned previously, each condition/command(s) combination is a data entry rule, and you can have more than one rule for an element. When there are multiple data entry rules, they display sequentially as you answer Y (no changes) to the last COMMAND line of each rule.

When you have come to the end of the rules, the displays reads:

```
DATA ENTRY RULES
CORRECT? (YES/NO/DEL) []
 UNCONDITIONALLY
 NO COMMANDS
```

This display means "you have come to the end of the data entry rules for this element. OK?" Of course, if you want to add another rule, you must answer NO and proceed as described earlier. If you are satisfied with the rules as they are, answer Y to display your form.

Within the condition portion of the rule, it is possible to refer to non-kept elements, that is, elements that do not have a name. These elements are referred by a "\" followed by their entry number. For example, if you do not want the data entry clerk to have to press the "K" key to keep a record but instead you want to answer "Y" or "N" to the question "Correct?" and then based upon the answer, the commands KEEP and START OVER will be executed, the following data entry rules may be used.

```
DATA ENTRY RULES
 CONDITION: IF \20 = "Y"
 COMMAND: KEEP
 COMMAND: START OVER
 COMMAND: NO COMMAND
```

```
DATA ENTRY RULES
 CONDITION: IF \20 # "Y"
 COMMAND: SKIP TO 1
 COMMAND: NO COMMAND
```

```
DATA ENTRY RULES
 UNCONDITIONALLY
 NO COMMANDS
```

```
WHERE \20 REFERS TO ENTRY
NUMBER 20 ON THE FORM
```

APPENDIX A ERROR MESSAGES

This appendix contains brief explanations of most error messages that a JUST ASK user may receive.

Two types of errors are possible: user errors and system errors. User errors are mistakes made by you, the user of JUST ASK; system errors are failures in the JUST ASK software. You can distinguish a system error from a user error by the first words in the error message: a user errors begins with the word "SORRY"; a system error begins with the words "JUST ASK ERROR".

You should never see a system error; if you do, however, contact your CADO representative. If you receive a user error message that you do not understand, locate the message on the list in Subsection A.1 and note the error number. Then use the error number to locate the explanation in Subsection A.2.

A.1 LIST OF ERROR MESSAGES

ERROR #	ERROR MESSAGE
0	(NOT USED)
1	A SECOND FILE NAME IS NEEDED
2	A NULL STRING IS AN INVALID NAME
3	SPACES NOT ALLOWED IN NAMES
4	VOLUME NOT DEFINED
5	TRACKS 0 AND 76 ARE RESERVED
6	A RESERVED KEYWORD MAY NOT NAME A FORM
7	THIS FILE HAS NOT BEEN DEFINED
8	THIS FORM HAS NOT BEEN DEFINED
9	FILESET FULL
10	THE FILES ARE NOT IN THE SAME FILESET
11	THE FILES HAVE THE SAME FILE NUMBER
12	AN ELEMENT TO BE PRINTED IS UNDEFINED
13	MUST BE A NUMERIC ENTRY
14	THIS ELEMENT IS UNDEFINED
15	NUMERIC FIELD MISSING AT END OF CALCULATION
16	NON-NUMERIC ELEMENT IN TOTAL/AVERAGE/PERCENT PHRASE
17	NON-NUMERIC ELEMENT IN SUM/ANALYZE/CHART SENTENCE
18	NON-NUMERIC FIELD IN CALCULATION
19	SECOND FILE NAME MISSING
20	FILE NAME IS NOT IN THE DIRECTORY
21	THE CONTROL FILE MAY NOT BE USED
22	(NOT USED)
23	ARITHMETIC OPERATOR MISSING
24	ARITHMETIC OPERATOR MISSING IN WITH/IF/LETTING PHRASE
25	THIS DEVICE HAS NOT BEEN DESCRIBED
26	ELEMENT ID NUMBERS EXHAUSTED
27	SYNONYM'S ORIGINAL ELEMENT MISSING
28	THIS SENTENCE IS TOO LONG
29	(NOT USED)
30	THIS VERB IS UNRECOGNIZABLE
31	NO ELEMENTS SPECIFIED FOR CHARTING
32	ENDING QUOTE MARK MISSING IN A LITERAL
33	ELEMENT IN OTHER FILE DEFINITION MISSING
34	THIS FILESET IS UNDEFINED
35	THIS FORM ALREADY EXISTS
36	ANOTHER USER HAS MODIFIED THIS FORM
37	THIS IS A DATA ENTRY FORM
38	THIS IS A REPORT FORM
39	INVALID ELEMENT NAME
40	THE FORM MUST BE KEPT FIRST
41	WORD PROCESSING IS NOT INSTALLED
42	A "FILL" CANNOT BE DISPLAYED
43	THIS SENTENCE DOES NOT CONTAIN A DOCUMENT NAME
44	NON-NUMERIC LITERAL IN CALCULATION
45	(NOT USED)
46	A KEY HAS ALREADY BEEN DEFINED
47	A RECORD NUMBER HAS ALREADY BEEN DEFINED
48	RELATION MISSING IN WITH/IF/LETTING PHRASE
49	INVALID RELATION IN WITH/IF/LETTING PHRASE
50	FILL-DOCUMENT MISSING DOCUMENT NAME
51	(NOT USED)

ERROR #	ERROR MESSAGE
52	LETTING/SWITCHING PHRASE IS MISSING AN ELEMENT NAME
53	(NOT USED)
54	MIXED ALPHA/NUMERIC MODES IN WITH/IF/LETTING/SWITCHING PHRASE
55	(NOT USED)
56	ANOTHER USER IS SORTING - TRY LATER
57	FILL-DOCUMENT MISSING FOLLOWING IF/WITH PHRASE
58	NO ELEMENTS DEFINED
59	(NOT USED)
60	"AGAINST" MAY ONLY BE USED WITH "LIST" OR "INSERT"
61	FILE WAS NOT CREATED, DISK SPACE MANAGER ERROR
62	SORRY,
63	JUST ASK III ERROR -
64	THE DEFINITION FILE IS FULL. THIS ELEMENT CANNOT BE KEPT
65	ADDING THIS ELEMENT CAUSES OVERFLOW. IT HAS BEEN TRUNCATED
66	(NOT USED)
67	(NOT USED)
68	THIS NAME HAS BEEN USED
69	(NOT USED)
70	THE KEY TO THIS RECORD HAS NOT BEEN INPUT
71	THIS RECORD HAS NOT BEEN KEPT
72	(NOT USED)
73	THE KEY TO THIS FILE IS UNDEFINED
74	THE FILE IS FULL. THIS RECORD CANNOT BE KEPT
75	OTHER FILE'S DEFINITION IS MISSING
76	OTHER FILE'S ELEMENT DEFINITION IS MISSING
77	THERE ARE NO MORE BUFFERS AVAILABLE
78	ENTRIES OF ZERO ARE NOT ALLOWED
79	TRACKS ALLOCATED
80	THE SENTENCE ENDS WITHOUT FINISHING THE PHRASE
81	(NOT USED)
82	INVALID VALUE FOUND IN DATE OR TIME LITERAL
83	DEFINITION MISSING. PLEASE RECREATE IT
84	INVALID PASSWORD
85	FORM TEXT MISSING
86	(NOT USED)
87	(NOT USED)
128	IN DELETION
129	DISK IS FULL, COMPACT THE VOLUME
130	(NOT USED)
131	IN DEFINITION LINKAGE
132	IN CALCULATION
133	FORM TEXT MISSING
134	TEMPORARY FORM TEXT MISSING
135	INITIAL RECORD MISSING
136	FILE DEFINITION RECORD MISSING
137	INVALID FILE NAME
138	INVALID BUFFER NUMBER
139	UNDEFINED FILE
140	END OF ACCESS
141	DOCUMENT NAME MISSING
142	CURRENT RECORD MISSING

A.2 EXPLANATION OF USER ERROR MESSAGES

The same error message may have different or slightly different meanings in the different JUST ASK functions. Therefore, prior to the explanation of a message, the function or functions where the explanation applies will be listed. The possible functions are:

FORM LAYOUT	For both Layout A Data Entry and Layout A Report Form.
DATA ENTRY	For both Make An Inquiry and Data Entry.
REPORTING	For both Display A Report and Print A Report.
GENERAL	For all of JUST ASK including the utilities.

Following are explanations for the error messages in Section A.1:

ERROR #	FUNCTION	EXPLANATION
001	REPORTING	The CREATE, MERGE, and RESTRUCTURE verbs require an input and output file.
002	GENERAL	The name of any JUST ASK element may not be null, that is, contain no characters.
003	GENERAL	The name of any JUST ASK element may not contain a space or blank character.
004	FORM LAYOUT	There is no volume definition on the first disk in the volume.
005	FORM LAYOUT	Tracks 0 and 76 are not available for file use.
006	GENERAL	JUST ASK utilizes various words within report sentences to understand what it is to do. These words are reserved; that is, you may not use one of them as a name because it would confuse JUST ASK during its report functions.
007	FORM LAYOUT	The file which is associated with the form you have requested no longer exists. Someone has deleted it. or You are trying to assign initial values to a form whose elements have not been defined with the Special Function Define Element.
	REPORTING	The first or second file name specified in your sentence does not exist possibly because you mistyped it or someone deleted it.

ERROR #	FUNCTION	EXPLANATION
008	GENERAL	The form name you entered does not exist possibly because you mistyped it or someone deleted it.
	REPORTING	The form name specified in your AGAINST phrase does not exist, possibly because you mistyped, or someone deleted it.
009	FORM LAYOUT	There is no room in this file set for another file. Build a new file set.
010	REPORTING	The second file (output file) that you have specified in your sentence is not defined to be in the same file set as the first file (input file) specified and thus cannot be accessed.
011	REPORTING	The second file (output file) that you have specified in your sentence is defined to have the same file number as the first file (input file). JUST ASK does not support this type of information transfer.
012	REPORTING	The word shown in the NOW CHECKING message is not the name of a defined element and cannot be printed or included in a report. The possible cause of this error is a misspelling of the name or its deletion by another user.
013	GENERAL	The function that you are attempting to use only applies to numeric elements (numbers, dates, times, calculations, record numbers, or elements in other files of one of these types) and the element that you have selected is not defined to be a numeric element.
014	GENERAL	The name you have just specified does not define an existing JUST ASK element. Perhaps you mistyped it or someone has deleted it.
015	FORM LAYOUT	The calculation you just entered ends with an arithmetic operator (+ - * /). Another numeric element must be added to the end of the calculation.
016	REPORTING	The element you specified in the phrase is defined to be a string of text, key, substring, or references such an element from another file. Numeric operation cannot be performed on these types of elements.

ERROR #	FUNCTION	EXPLANATION
017	REPORTING	The element shown in the NOW CHECKING message is defined to be a string of text, key, substring, or references such an element from another file. Numeric operations cannot be performed on these types of elements.
018	FORM LAYOUT	One of the elements specified in a calculation is defined to be a string of text, key, substring, or references such an element from another file. Numeric operations cannot be performed on these types of elements.
019	REPORTING	The CREATE, MERGE, and RESTRUCTURE verbs require an input and an output file.
021	GENERAL	File 0 may not be used as a Data File. It contains all of JUST ASK's information.
023	FORM LAYOUT and REPORTING	Within the specified calculation, two elements are not separated by a +, -, *, or /.
024	REPORTING	Two elements are not separated by a +, -, *, or / with the specified phrase.
025	GENERAL	The device you have requested has not been described utilizing the DESCRIBE A DEVICE utility. or When you described the device its key did not start with "J.A." and end with a two digit number. For example, Device 2 must have a key of "J.A.02".
026	FORM LAYOUT	The internal identification numbers that JUST ASK utilizes to reference an element have reached their maximum. You must restart the number process with the automatic RENUMBER A FILE utility.
027	GENERAL	The original element which this synonym references no longer exists. Someone has deleted it.
028	REPORTING	Sentence may be a maximum of 254 characters in length.
030	REPORTING	The first word in your sentence is not a valid JUST ASK verb.

ERROR #	FUNCTION	EXPLANATION
031	REPORTING	You must specify the elements that are to be charted by including their names in the sentence.
032	GENERAL	Literal alphanumeric strings of text must be surrounded by quotation marks ("), one preceding and one following.
033	GENERAL	The element in another record that you are referencing no longer exists. Someone deleted it. The element in your file still exists but the one it references does not.
034	GENERAL	The definition of the file set to which this file belongs is missing, perhaps you mistyped its name or someone has deleted it.
035	FORM LAYOUT	The name that you are attempting to assign this form already identifies another form.
036	FORM LAYOUT	While you have been modifying this form another user has modified and kept it. Therefore, your version is obsolete and cannot be kept.
037	FORM LAYOUT	You are in the Layout A Report Form function but the name you have specified identifies an existing Data Entry form.
038	FORM LAYOUT	You are in the Layout A Data Entry Form function but the name you have specified identifies an existing Report form.
039	GENERAL	The name you have specified is not valid, that is, it contains one or more of the following: . , blank + - * / ` [ ] = # ( ) > <.
040	FORM LAYOUT	Before you may specify initial values for elements, you must KEEP the form in its current format.
041	REPORTING	The CADO Word Processing must exist on the disk and its position identified with the CONFIGURATION UTILITY before a FILL or MULTI-FILL sentence can be executed.
042	REPORTING	The output from FILL and MULTI-FILL sentences must be printed. It cannot be displayed on the screen.
043	REPORTING	The third non-connective word in a FILL sentence must be the name of the CADO Word Processing document that is to be utilized.

ERROR #	FUNCTION	EXPLANATION
044	FORM LAYOUT	Only numeric elements and numeric literals may be part of a calculation. The following are valid numeric literals: 7 100.00 52 .7 The following are not numeric literals: "7" 4X2 A1 "100.00" Additionally, a numeric literal may contain a maximum of 14 digits.
046	FORM LAYOUT	Only one KEY may be associated with or defined for a file.
047	FORM LAYOUT	Only one RECORD NUMBER may be associated with or defined for a file.
048	REPORTING	The valid relations are =, #, <, >, <=, >=, [],][, EQ, NE, LT, GT, LE, GE, CO, NC. The relation must separate two elements, an element and a calculation, or two calculations. Only an = is valid in a LETTING phrase.
049	SEE 048	
050	REPORTING	The name of a CADO Word Processing document must be the first non-connective word after a FILL-DOCUMENT phrase.
052	REPORTING	The LETTING phrase must contain the name of an existing JUST ASK element on the left-hand side of the equal sign. The SWITCHING phrase must contain the names of two existing JUST ASK elements. If you did specify a name, perhaps it is misspelled or someone deleted it.
054	REPORTING	Both halves of the phrase must match in type, both must be numeric or both must be alphanumeric. For example, you may not use IF PRICE = "1.00" but you may use IF PRICE = 1.00.
056	REPORTING	Only one user may be sorting on the computer system at a time. You may wait for that user to finish or remove the BY phrase(s) from your sentence.

ERROR #	FUNCTION	EXPLANATION
057	REPORTING	Within a MULTI-FILL sentence, a FILL-DOCUMENT phrase must follow the IF or WITH phrases to identify the CADO Word Processing documents which are to be utilized.
058	GENERAL	The file has been named but no elements have been defined for it utilizing the DEFINE ELEMENT SPECIAL FUNCTION.
060	REPORTING	An AGAINST phrase may only appear in LIST or INSERT sentences.
064	GENERAL	JUST ASK stores its information in File 0. There is no more room in that file. Run the CADO File Compress Utility and if that does not free any space, run the RESIZE Control Utility.
065	DATA ENTRY	A Data Entry may be a maximum of 255 bytes in length. What you entered exceeded that so it has been truncated to fit.
068	FORM LAYOUT	The name you wish to use to hold the restructuring information has already been used. Choose another.
070	DATA ENTRY	Before a record of information can be kept, its key must be entered because the key identifies the record.
071	DATA ENTRY	The record displayed on the screen has not been KEPT on the disk.
073	DATA ENTRY	A record of information may not be retrieved (gotten) because none of the elements on the form is defined to be the KEY which identifies the records.
074	DATA ENTRY or REPORTING	The data file has no more available space. Run the CADO FILE COMPRESS utility and if that does not free any space, you must resize the file.
075	GENERAL	The file referred to in an ELEMENT FROM ANOTHER FILE does not exist. Someone deleted it.
076	GENERAL	The element in the other file referred to in an ELEMENT FROM ANOTHER FILE does not exist. Someone deleted it.

ERROR #	FUNCTION	EXPLANATION
077	GENERAL	JUST ASK uses the spare memory on the system through buffer allocation utilities to accomplish its function. It has used all of this memory and there is no more available.
078	GENERAL	A file cannot be located on Drive 0, or Track 0, or occupy 0 tracks.
079	GENERAL	A file is located on this (these) track(s).
080	REPORTING	The last phrase in the sentence is missing the name of the existing element that is to be utilized.
082	REPORTING	A date literal must have one of the following formats: "MM/DD/YY", "DD/MM/YY", or "YY/MM/DD". For example, November 5, 1982 would be represented as "11/05/82", "05/11/82", or "82/11/05". The format you specify must match the defined format of the element you are comparing with it. A time literal must have the format of "HH:MM". For example, "09:27" or "15:45".
083	FORM LAYOUT	The definition of the element that you have identified no longer exists. Someone has deleted it. Recreate it exactly as it was previously and then make any change to it as a separate action.
084	GENERAL	The password that you have entered is not correct.
085	GENERAL	The text portion or "body" of the form does not exist. Someone deleted it. Delete the rest of the form from this disk using the DELETE A FORM utility. Then copy the form from a back-up disk using the COPY A FORM utility.

A.3 EXPLANATION OF SYSTEM ERROR MESSAGES

ERROR #	EXPLANATION
128	The error branch or a CADOL DELETE statement was taken.
131	The definition of the element was read previously, and thus existed. Now it cannot be read so it must not exist.
132	The definition of calculation is no longer valid. Either one of the elements no longer exists or the definition record has been written over.
133	In attempting to Display A Form, the location records and form records are out of sync. More form exists than locations or vice versa.
134	A temporary form record that JUST ASK has written in the control file to support the scrolling of the user has been deleted.
135	The Type 16 record for this file has been deleted.
136	The definition record for the file was previously read and thus existed. Now it cannot be read and therefore does not exist.
137	The file name that JUST ASK has found in a definition is invalid and thus could not have been created. The record supplying the information must have been overwritten.
138	The text file buffer address that JUST ASK has been asked to supply is not valid.
139	The file name that JUST ASK has found in a definition no longer exists. It was deleted in some manner other than DELETE A FORM.
140	The Type 1 access record does not match the data records in the file. The end of the access record was reached before the end of the data.
141	The document name that JUST ASK was passing to Word Processing in this MULTI-FILL sentence has been lost.
142	The data record that JUST ASK was manipulating and thus read from the disk cannot be found on the disk again.

A.4 EXPLANATION OF PROMPTS DICTATING ACTION

There are a set of prompts which dictate some action on the part of the user. These prompts describe conditions that exist and should be rectified to prevent future problems from arising. They are described in this section on errors because if ignored they could lead to errors.

PROMPT #

207 - THIS NEXT ID# IS INVALID! WHAT SHOULD IT BE?

EXPLANATION

The identification number that JUST ASK assigns to a kept element and uses internally to reference the element is taken from a value called NEXTID. JUST ASK assigns the NEXTID value to a new element and then increments NEXTID by one. Before doing this, however, it checks that the value of NEXTID is valid. If the value is greater than 240, JUST ASK instructs the user that the valid numbers have been exhausted and that he/she should renumber the file automatically. If value is less than 1, which means it is 0, JUST ASK decides that an impossible situation has arisen which the user may rectify. That is, the user may specify a number greater than the largest identification number assigned to an element of this file to be the value of NEXTID.

210 - WARNING - FORM OUT OF SEQUENCE. COPY FORM BEFORE COMPRESSING OR RESIZING

EXPLANATION

JUST ASK stores a form on the disk as a sequence of records. The order of this sequence must match the order of the form. If the Control file (File 0) begins to get full either because many records have been deleted or the number of records in the file is approaching the maximum, the order of the records can be left in such a state that compressing or resizing (making larger) the Control file will change the order. This prompt warns the user of this state and indicates that prior to compressing or resizing the file, the user should copy this form to another disk or make a backup of this disk. Delete the form from this disk along with its elements. Compress or resize the Control file. Copy the form back onto this disk from the other disk or the backup disk.

APPENDIX B JUST ASK III UTILITIES

The JUST ASK utilities perform a variety of useful functions. Some of these functions are "housekeeping" tasks that might be performed routinely, while others are "installation" tasks that are usually needed only when a system is first set up. Although you may have only the routine utilities on your menu, all the utilities are described in this section. Please disregard any utilities which do not apply to you.

The functions of the various utilities can be summarized as follows:

List Sentences	Lists all the report sentences that have been saved.
List Kept Elements	Lists the elements that have been defined for a specified file, or all files, including the name, element type, column width, and column heading for each element.
List Forms	Lists all the forms that have been defined, including the form name, create date, creator, modification date, and modifier.
Lists Forms and Files	Lists all the files that have been defined and, for each file, lists all the forms that use it.
Delete Forms	Deletes a specified form or all forms. Optionally, deletes the file elements on the form from the corresponding file definition.
Copy Forms	Copies a specified form or all forms from one disk to another. Additionally, copies the corresponding file definitions.

Describe a Device	Creates or changes a JUST ASK device definition, including such output characteristics as form control, form width and length, and the word processing volume to be used for FILL.
Renumber a File	Permits the renumbering and alternately the reordering of the elements in a file.
Predefine Conditions	Creates, changes, or lists the predefined conditions defined for a specified file.
Define Synonyms	Creates alternate names for existing files or element names.
List Kept Elements Via ID #	Lists the elements that have been defined for a specific file or all files sorted by ID number.
Disk Space Management	Includes the utilities necessary to maintain Data Files and install Disk Space Management. Lists the files on a volume; lists the available space on a volume; and compacts a volume.

B.1 LIST SENTENCES

This utility prints or displays a list of the report sentences that have been saved. A short sample list is shown below:

```
09/29/82

SENTENCE NAME: RAB5

JA:  CHART THE PARTS FILE
JA:  FOR ON\HAND, M\T\D, AND Y\T\D.

SENTENCE NAME: EMP5

JA: LIST EMPLOYEE AGAINST EMPTRAIL BY
JA: DEPT\NO,
JA: TOTAL-ALL VACATION.

SENTENCE NAME: RAB1

JA:  LIST THE PARTS FILE AGAINST PARTS.

SENTENCE NAME: RAB15

JA:  CREATE THE NAMES FILE IN ALTNAME
JA:  SWITCHING CUSTOMER AND L\NAME.

SENTENCE NAME: RAB31

JA:  SUM THE PARTS FILE BY ON\ORDER AND BREAK-ON ON\ORDER
JA:  FOR ON\ORDER, PRICE, AND MINIMUM.

SENTENCE NAME: RAB17

JA:  LIST THE PARTS FILE FOR ^^LINE^^, CODE, DESCRIPT, AND PRICE.

SENTENCE NAME: RAB18

JA:  LIST THE PARTS FILE FOR CODE DESCRIPT
JA:  TOTAL-ALL ON\HAND, ON\ORDER, PRICE.

SENTENCE NAME: RAB21

JA:  INSERT THE PARTS.

SENTENCE NAME: RAB2

JA:  LIST THE PARTS FILE AGAINST MONTHLY.

SENTENCE NAME: RAB16

JA:  LIST THE ALTNAME FILE.

SENTENCE NAME: RAB19
```

Figure B-1 Sample List of Sentences

Procedure

1. Select "List the Sentences" from the JUST ASK utility menu.

2. The screen displays:

```
On Device:  (0-99)
```

   Enter the number of the device you want to use for the list.

3. The report prints or displays on the desired device. The system returns to the main JUST ASK menu.

B.2 LIST KEPT ELEMENTS

This utility prints or displays a list of all the elements that have been defined for a specified file or all files. A short sample list is shown below:

```
09/29/82
DEFINITION OF FILE ALT\PART FILE #4 IN FILESET TEST SORTED IN FILE #9
DISK LABEL SET NAME:

NAME        WIDTH  ID   TYPE                        FORMAT          LOCATIONS

ON\HAND     10        3  NUMBER                      XXXXXXXXXX        4
  HEADING: ON HAND

M\T\D       10        8  NUMBER                      XXXXXXXXXX        0
  HEADING: M-T-D

Y\T\D       10        9  NUMBER                      XXXXXXXXXX        2
  HEADING: Y-T-D

COMMIT      10        4  NUMBER                      XXXXXXXXXX        4
  HEADING: COMMITTED

PART\NO      8      255  KEY
  HEADING: PART #

PRICE       10        2  NUMBER                      XXXXXXX.XX        3
  HEADING: PRICE

MINIMUM     10        6  NUMBER                      XXXXXXXXXX        8
  HEADING: MINIMUM

ON\ORDER    10        5  NUMBER                      XXXXXXXXXX        2
  HEADING: ON\ORDER

WORTH       12       10  CALCULATION                 XXXXXXXXX.XX
  CALCULATION: PRICE * ON\HAND
  HEADING: NET WORTH

DESC        30        1  STRING OF TEXT
  HEADING: DESCRIPTION

MAXIMUM     10        7  NUMBER                      XXXXXXXXXX        1
  HEADING: MAXIMUM

NUMBER OF ELEMENTS DEFINED: 11
TOTAL COLUMN WIDTH: 130                 MAXIMUM LOCATIONS OCCUPIED:  68
```

Figure B-2 Sample List of File Elements

The list includes the name, column width, element type, and column heading for each element. For numeric elements and dates, the display format and number of locations occupied are shown. These characteristics are described in Section 7, which also explains how to create or change a file element definition.

JUST ASK assigns an ID number to each file element. Although the ID is shown on the listing, it is of no importance to the typical user. See Subsection B.8 for further details.

Procedure

1. Select "List Kept Elements" from the JUST ASK utility menu.

2. The screen displays:

```
FILENAME: (RETURN for all)
```

   Enter the name of the desired file followed by RETURN to list a single file. Enter a RETURN to list all of the files.

3. The screen displays:

```
On Device:  (0-99)
```

   Enter the number of the device you want to use for the list.

4. The report prints or displays on the desired device. The system returns to the main JUST ASK menu.

B.3 LIST FORMS

This utility prints or displays a list of all the forms that have been defined. The list includes report forms (created using Layout A Report Form) as well as data entry forms (created using Layout A Data Entry Form). A short sample list is shown below:

09/29/82

FORM	CREATE DATE	CREATOR	VER	MODIFY DATE	MODIFIER
MONTHLY	06/13/82	RANDY	5	07/14/82	RAB
EMPSUMRY	09/29/82	RAB	2	09/29/82	RAB
EMPTRAIL	09/29/82	RAB	0		
NEWPARTS	07/09/82	RAB	0		
NAMES	05/02/82	RANDY	3	05/13/82	RAB
EMPREPOR	09/29/82	RAB	8	09/29/82	RAB
PARTS	05/03/82	RANDY	16	09/14/82	RAB
ALT\PART	05/05/82	RANDY	1	05/05/82	RAB
STARTER	09/29/82	FLOYD	1	09/29/82	FLOYD
ALTNAME	05/06/82	RANDY	0		
INVOICE	05/03/82	RANDY	4	05/13/82	RAB
CONTACT	09/29/82	FLOYD	1	09/29/82	FLOYD
FIELD	09/29/82	FLOYD	0		
EMP\MAST	09/29/82	RAB	1	09/29/82	FLOYD

NUMBER OF FORMS: 14

Figure B-3 Sample List of Forms

The headings on the report are self-explanatory, except perhaps for VER. VER stands for "version", that is, the revision level of the form. After one modification, VER is 1, after two modifications, VER is 2, and so on.

<u>Procedure</u>

1. Select "List Forms" from the JUST ASK utility menu.

2. The screen displays:

```
On Device:  (0-99)
```

   Enter the number of the device you want to use for the list.

3. The report prints or displays on the desired device. The system returns to the main JUST ASK menu.

B.4 LIST FORMS AND FILES

This utility lists all the files that have been defined, together with all the forms that have been defined for each file. A short sample list is shown below:

```
09/29/82
FILENAME:        DATA ENTRY FORM NAME:

NAMES            NAMES

PARTS            MONTHLY
                 NEWPARTS
                 PARTS

ALT\PART         ALT\PART

EMPLOYEE         EMPSUMRY
                 EMPTRAIL
                 EMPREPOR
                 CONTACT
                 EMP\MAST

ALTNAME          ALTNAME

INVOICE          INVOICE
```

Figure B-4 Sample List of Forms and Files

Procedure

1. Select "List Forms and Files" from the JUST ASK utility menu.

2. The screen displays:

   On Device: (0-99)

   Enter the number of the device you want to use for the list.

3. The report prints or displays on the desired device. The system returns to the main JUST ASK menu.

B.5 DELETE FORMS

This utility deletes a specified form or, optionally, all forms. It will delete only the form or the form together with the file and element definitions associated with the form. If you delete the file, all the elements in the file are deleted, not just the ones accessed by the particular form.

This utility should be used with care. Do not delete a form unless you are sure no one ever uses it. Be especially careful about deleting the file associated with the form; some of the elements in the file might be used on another form.

This utility deletes report forms (created using Layout A Report Form) as well as data entry forms (created using Layout A Data Entry Form). However, when deleting a single report form, you do not have the option of deleting the file associated with that form.

Two forms, named DEVICE` and REPORT`, are required by JUST ASK and <u>should not be deleted</u>. If you use the delete all forms option, these two forms are automatically protected.

If a file exists without a form accessing it, this utility will not delete the file. Although normally files can only be created through a form, it is possible to delete all the forms accessing a file without deleting the file. After this, you will not be able to delete the file using this utility.

<u>Procedure</u>

1. Select "Delete Forms" from the JUST ASK utility menu.

2. The screen displays another menu:

```
                JUST ASK III FORM DELETION

1. Delete one Form
2. Delete all Forms
3. Return to JUST ASK's Menu
```

3. Make your selection from the menu. If you are deleting all forms, proceed now to Step 4. If you are deleting one form, the screen displays:

```
                FORM NAME:
```

Enter the name of the form you want to delete. If the form does not exist, your entry is erased and the FORM NAME prompt is redisplayed. If you enter a valid FORM NAME the screen displays:

```
CORRECT? (YES/NO)
```

Make sure you have entered the correct form name. If so, enter YES. Otherwise, enter NO; then you can re-enter the form name.

4. The screen displays:

```
DO YOU WISH TO REMOVE THIS ELEMENT(S) FROM THOSE KEPT? (YES/NO)
```

If you want to delete the file(s) associated with the form(s), answer YES. If you only want to delete the form itself, answer NO.

5. If you answered YES, the screen displays:

```
DELETION OF FORM(S) AND RELATED ELEMENT(S) IS ABOUT TO OCCUR!
```

Or, if you answered NO, the screen displays:

```
DELETION OF FORM(S) IS ABOUT TO OCCUR!
```

Then the screen displays:

```
ARE YOU SURE NO ONE ELSE IS USING IT (THEM)? (YES/NO)
```

Make sure that no one needs the form(s) you are deleting. If you are deleting file(s) as well, make sure that no one uses the file(s) on another form. If you are not sure, answer NO. Then the system returns to the Form Deletion menu without deleting anything.

If you want to go ahead with the deletion, answer YES.

6. If you are deleting a single form, the screen returns to the Deletion Utility menu after the form is deleted. If you are deleting all forms, the screen displays:

```
                    DELETION IN PROGRESS, PLEASE WAIT

          NUMBER OF FORMS DELETED:
          FORM NAME:
```

The names of the forms being deleted are displayed in succession, as the number of forms being deleted is counted.

7. Upon completion, the screen displays:

```
          DONE
```

Press RETURN to return to Step 2.

B.6 COPY FORMS

In order to copy a form from one disk, or side of a disk, to another, do the following: First, make sure the disk onto which the file is to be copied has been configured as a JUST ASK disk. Access the JUST ASK III main menu. Select number 7 for JUST ASK III UTILITIES. Select number 6, the COPY FORMS option, and the terminal will respond:

```
JUST ASK III FOR TRANSFER
FROM DRIVE NUMBER []
```

Type the disk drive number where the file resides and press RETURN. Terminal will respond:

```
TO DRIVE NUMBER []
```

Type the drive number where the copy is to be copied. Terminal will respond:

```
FORM NAME: []
```

Type the name of the form. The terminal will ask if the data information is correct. Type Y if it is correct and the copy will be made. Type N to re-enter the correct information.

If you are copying a data entry form, you must re-"KEEP" the form to specify the LABELSET, FILE SET, FILE, and RECORD information needed by JUST ASK. See Subsection 6.4.1.4 for this procedure.

B.7 DESCRIBE A DEVICE

This utility creates or changes the definition of a JUST ASK output device. A JUST ASK "device" is a complete set of output specifications. When you want to print a report, for example, JUST ASK prompts you for a device number. The number you enter refers JUST ASK to a set of parameters specifying which printer to use, what size paper is being used, whether to print continuously or stop at the end of each page, and so on.

Many JUST ASK devices may be defined for a single printer. For example, suppose you have only one printer on your system. You might use one JUST ASK device number for printing reports, another for printing checks, and another for invoices, because the form size is different in each case.

Procedure

1. Select "Describe a Device" from the JUST ASK utility menu.

2. JUST ASK transfers you to Data Entry mode, with a special device control form displayed on the screen.

   A blank form is shown below:

```
                              JUST ASK DEVICE CONTROL

DEVICE NUMBER: (J.A.00 - J.A.99)  ^^^^^^
DEVICE INDICATOR: ^^
ASSIGNED BY NUMBER: (0-7)  ^
SLAVE PRINTER? (1=NO, 0=YES)  ^
FORM CONTROL: SCREEN(0),CONTINUOUS(1),KEYBOARD(2),SWITCH(3)  ^
FORM WIDTH: (CHARS)  ^^^
FORM LENGTH: (LINES) ^^^
RELEASE DISPLAY WHILE PRINTING? (0=NO, 1=YES)  ^



                              WORD PROCESSOR "FILL" CONTROL

TEXT FILES VOLUME NUMBER: (0-99)  ^^
WORD PROCESSOR FORMAT NUMBER: (0-99) ^^
```

3. You can now create a new device definition or change an existing definition by using the standard JUST ASK data entry functions. (If you do not know how to operate the data entry functions, refer to Section 5 of this manual.) Remember that the HELP command is available ("?" key). Follow these guidelines:

DEVICE NUMBER: (J.A.00 - J.A.99)

Possible device numbers are J.A.00 through J.A.99. You must enter a number using exactly this format, including periods.

The device number is the key to this form. That is, you should start by GETting the desired device number. Then, if the device is already defined, its definition is displayed for inspection and possible editing. You can then use ENTER to make any desired changes.

NOTE: Device J.A.00 should always be the display screen.

DEVICE INDICATOR: 13

This entry is used internally by JUST ASK. It is uneditable and should always be 13.

ASSIGNED BY NUMBER: (0-7)

This number assigns this JUST ASK device definition to a particular output device. For the display screen, use number 00. For the main system printer, use number 01. For a slave printer (printer attached directly to a display terminal), use number 00.

If you have an auxiliary printer in your system, it has a number in the range 02 - 07. If you are not sure about the number of the device you want to use, consult your CADO representative.

SLAVE PRINTER? (1=NO, 0=YES)

In most systems each printer is attached directly to the system and works independently of any other device in the system. In rare cases, the printer is a "slave," attached to a display terminal and capable of printing only what displays on the screen.

Answer 0 if you are using a slave printer for output; otherwise, answer 1.

FORM CONTROL: SCREEN(0), CONTINUOUS(1), KEYBOARD(2), SWITCH(3)

This entry specifies how forms are "controlled," that is, what happens at the end of each page.

If the output device is a display screen, enter 0. In this mode, one "screenful" of text is displayed at a time. The operator must press RETURN when ready to view the next screen.

If you are using continuous forms (pages joined together with perforations), enter 1. In this mode, the entire report prints without interruption.

If you are using single-sheet forms, enter 2 (keyboard control) or 3 (switch control). In either of these modes, printing stops at the end of each page, and the system waits for a signal from the operator before printing the next page.

With KEYBOARD control, the operator presses the RETURN key to signal the system to resume printing. With SWITCH control, the operator presses a particular switch on the printer. On the P-1001 printer, press the READY switch momentarily and then release it. On the P-1001 printer, flip the REMOTE/-LOCAL switch to LOCAL and then back to REMOTE. If you print single-sheet forms on another printer model, ask your CADO representative which switch to use.

FORM WIDTH: (CHARS)

Enter the maximum number of characters that can fit neatly across the paper you are using, after allowing as much room as you want for left and right margins. Use 80 for the display screen.

Letter-size paper is typically given a width of 80 (at 10 characters per inch) or 96 (at 12 characters per inch), while "computer" paper is typically given a width of 132 characters (at 10 characters per inch). If your printer has "compressed" print, you can fit even more characters on a form.

FORM LENGTH: (LINES)

Enter the maximum number of output lines that can fit neatly on the paper you are using, after allowing as many lines as you want for blank spaces at the top and bottom of the page. Use 24 for the display screen.

For example, standard-size paper is 11 inches long. After allowing one-half inch of blank space at the top and also at the bottom of the page, 10 inches of output space remain. In this case, the form length is 60 (using 6 lines per inch), or 80 (using 8 lines per inch), and so on.

RELEASE DISPLAY WHILE PRINTING? (0=NO, 1=YES)

This entry indicates whether the terminal should be released for other work while the printer produces a report. If the device you are defining is a display, you must answer NO. You must also answer NO if you intend to use this device for FILL reports.

In other cases, you probably want to answer YES. Then, after you request a report, the display returns to the JUST ASK menu while the printer outputs the report. In this way, you can continue with other work on the terminal while the report is produced independently. If the terminal does not release, it is to protect work in progress, as during the PRINT FUNCTION.

TEXT FILES VOLUME NUMBER: (0 - 99)

This entry indicates which word processing volume contains the FILL document(s). If you are not going to use this device for FILL reports, just press RETURN.

WORD PROCESSOR FORMAT NUMBER: (0 - 99)

This entry indicates which word processing printer format should be used to print FILL documents. If you are not going to use this device for FILL reports, just press RETURN.

4. Review your entries. If they are correct, press KEEP. Otherwise, you can edit them using the usual JUST ASK data entry commands.

Remember that the HELP command is available as well (press the "?" key).

5. To return to the JUST ASK menu, press CTRL + ESC, then answer Y to the ESCAPE? question.

NOTE: Infinite Recursion Possibility

It is possible that JUST ASK will print or display the same report repeatedly; this can occur if the page, report, or break header is specified to be longer than the capability of the device that is being used. For example, having a 25 line page header displayed in a 24 line device will result in JUST ASK starting to display the header, then stopping in the middle of the report to display the header again, and so on continually. It is the user's task to prevent such an occurrence.

B.8 RENUMBER A FILE

This utility is used in two ways: 1) modifying an existing form, and 2) creating a form to match an existing file.

1. When an element is defined on a form to be kept, JUST ASK assigns an identification number to the element. This number is issued internally by the system and used to refer to that element during reporting, data entry, or inquiry.

   This identification number will range from 1 to 240, with two exceptions. The KEY ELEMENT is assigned the number 255 and the RECORD NUMBER is 254. All other identification numbers are assigned sequentially, and may not be duplicated within a form. After a period of use, it is possible that all identification numbers may be used up, and these element numbers must be reassigned again, beginning with number 1. RENUMBER A FILE is the utility which performs this function.

2. The other use of RENUMBER A FILE is in reordering the sequence of elements in a file. This function is needed when the sequence of identification numbers of elements do not match the physical sequence of elements in the file. For example, if an element has been deleted from a form, successive elements will have a higher identification number than their physical position. This type of misnumbering can be corrected through the RENUMBER A FILE utility.

   This is how to use RENUMBER A FILE:

   1. Select RENUMBER A FILE from the JUST ASK UTILITY menu.

   2. Specify the file to be renumbered at the prompt FILE NAME:. The system will organize all of the elements into ascending order, by identification number.

   3. The prompt RENUMBER AUTOMATICALLY? (YES/NO) will be displayed.

      If the number of available identification numbers has been exhausted, that is, if number 240 has been used--answer YES, and the system will automatically renumber all of the elements in their current order, starting with identification number 1.

      If you are reordering the elements because they do not match the physical layout of the file--answer NO. The system will move from element to element, enabling you to change the identification numbers in keeping with their physical order. Remember, the KEY and RECORD NUMBERS will retain identification numbers 255 and 254; the system will not allow you to change these.

4. The system prompts CORRECT? (YES/NO) to verify the changes are as you want.

   Answer YES if correct. Answer NO if you want to repeat Step 3.

5. JUST ASK will search through every data entry form, report form, and redefined condition referencing this file and change the existing identification numbers to new ones. Additionally, the system will update the file's definition record and all of the element definition records to reflect the new numbering.

   The only items that will not be updated are references to elements in this file from other files. That is, elements in other files that reference this file through elements defined as ELEMENTS IN OTHER FILES. To update this you must call up the form that contains them and redefine the element with the SPECIAL FUNCTION DEFINE AN ELEMENT.

B.9 PREDEFINED CONDITIONS

This utility allows you to enter, edit, or list predefined conditions. A predefined condition is a BY or IF/WITH phrase that can be permanently associated with a file. For example, if you are sure that you want all reports on the EMPLOYEE file to be sorted by DEPT\NO, you can "predefine" a BY DEPT\NO phrase. Then every report on the EMPLOYEE file will be treated as if a BY DEPT\NO phrase had been typed into the JUST ASK sentence.

As another example, suppose your INVENTORY file contains company supplies in addition to products that are sold, and that supplies are denoted by a 99 in the product category field. If you want all INVENTORY reports to skip over the supplies, you can predefine a WITH PROD\CAT # 99 phrase.

Of course, you might want to produce separate reports on the supplies. To do this, you first define a synonym for the INVENTORY file, such as SUPPLIES (see Subsection B.10). Next, predefine a WITH PROD\CAT = 99 phrase for the SUPPLIES file. Then any reports on INVENTORY will exclude supplies, while reports on SUPPLIES will include only supplies.

You can predefine any number of conditions on a single file. If you predefine multiple BY conditions, the first one defined has the highest priority, and so on. If additional BY phrases are entered in a JUST ASK sentence, they have a lower priority than the predefined BY phrases. For example, if EMPLOYEE has a predefined BY DEPT\NO condition, and you enter the sentence "LIST EMPLOYEE BY NAME.", the report will be sorted first by DEPT\NO and then by NAME within each department.

If you use multiple WITH/IF phrases, they will be logically ANDed in the usual way (see Section 3.4.3.4). If you want to logically OR conditions, enter a single WITH/IF phrase and use OR, as described in Section 3.4.3.4.

When you select PREDEFINED CONDITION from the JUST ASK utility menu, another menu displays:

```
PREDEFINED CONDITION

1. Enter New Conditions
2. Edit Existing Conditions
3. List Conditions
```

The selections on this menu are described separately in the following subsections.

B.9.1 ENTER NEW CONDITIONS

Use this utility to create new predefined conditions.

Procedure

1. Select "Predefined Condition" from the JUST ASK utility menu, then select "Enter New Conditions" from the PRE-DEFINED CONDITION menu.

2. The screen displays:

```
FILENAME:
```

   Enter the name of the file for which you want to predefine conditions.

3. If any conditions have already been defined for the file, they are displayed. Below these existing conditions, the screen displays:

```
TYPE:  IF(1) OR BY(2)
```

   Enter 1 if you are defining an IF condition, or 2 if you are defining a BY condition.

4. If you enter 1, the screen displays:

```
CONDITION:  IF
```

   Or, if you enter 2, the screen displays:

```
CONDITION:  BY
```

   Complete the phrase as desired and press RETURN.

5. If you make an error, such as misspelling a field name, JUST ASK displays an error message. Otherwise, the screen redisplays the prompt:

```
TYPE:  IF(1) OR BY(2)
```

This indicates that the condition you entered has been accepted, and you can now define another condition by repeating Steps 3 through 5.

If you do not want to define another condition, press CAN to return to the PREDEFINED CONDITION menu or press CTRL + ESC to return to the main JUST ASK menu.

B.9.2 EDIT EXISTING CONDITIONS

Use this utility to change or delete predefined conditions.

Procedure

1. Select "Predefined Condition" from the JUST ASK utility menu, then select "Edit Existing Condition" from the PRE-DEFINED CONDITION menu.

2. The screen displays:

```
FILENAME:
```

Enter the name of the file which has the predefined conditions you want to edit.

3. The existing conditions for the file are displayed. A sample display is shown below:

```
FILENAME:  DEPT1

CONDITION:  IF DEPT\NO = 1
CONDITION:  BY NAME
```

4. Below this list of the existing conditions, the system redisplays each condition, in turn, and allows you to delete, cancel, or change that condition. (In this mode, canceling a condition leaves the condition unchanged.)

For example, below the list of conditions shown in Step 3, the screen would display:

```
CONDITION:  IF DEPT\NO = 1
DELETE?  (YES/NO)
```

5. Indicate whether you want to DELETE the condition by answering YES or NO. If you delete the condition, the system moves directly on to the next condition on the list.

6. If you do not delete the condition, the system displays:

```
CANCEL?  (YES/NO)
```

   Answer YES or NO. Canceling a condition leaves it unchanged. If you do cancel, the system moves on to the next condition.

7. If you do not cancel the condition, the cursor positions at the end of the condition so you can change it. Press BACKSPACE or DEL to erase the current condition, then enter the changed condition as desired and press RETURN.

   If you make an error, such as misspelling a field name, JUST ASK displays an error message. Otherwise, the system moves on to the next condition.

8. The system repeats this procedure until all the conditions on the list have been processed. After the last condition, the system displays:

```
TYPE:  IF(1) OR BY(2)
```

   You can now add new conditions to the end of the list in the usual way (refer to Steps 3 through 5 of the procedure in Subsection B.9.1).

9. To exit this utility, press CAN or CTRL + ESC. CAN returns you to the PREDEFINED CONDITION menu, while CTRL + ESC returns you to the main JUST ASK menu.

B.9.3 LIST CONDITIONS

This utility produces a list of the predefined conditions assigned to a specified file. A sample list is shown below:

```
PREDEFINED CONDITION     FILENAME: PARTS

CONDITION: BY DESCRIPT
CONDITION: BY PRICE
CONDITION: IF ON\HAND < 100
CONDITION: IF ON\ORDER > 100
CONDITION: IF MINIMUM > 35

DONE
```

Figure B-5 Sample List of Predefined Conditions

<u>Procedure</u>

1. Select "Predefined Condition" from the JUST ASK utility menu, then select "List Conditions" from the PREDEFINED CONDITION menu.

2. The screen displays:

   FILENAME:

   Enter the name of the file which has the predefined conditions that you want to list.

3. The screen displays:

   On Device: (0-99)

   Enter the number of the device you want to use for the list.

4. The report prints or displays on the desired device. The system returns to the main JUST ASK menu.

B.10 DEFINE SYNONYMS

The names that one assigns to files and elements may not always be meaningful to all of the people who have to use them. For example, a salesman may want to call an element "PRICE" while his customer wants to call it "COST."

The JUST ASK synonyms allow multiple names to reference the same file or element, permitting users to use the names most appropriate to each.

Additionally, synonyms for file names permit the same element definitions to reference more than one file, or disk space, and permit different sets of predefined conditions to reference the same file. For example, you may want to keep last year's customer information available on disk in one file while keeping this year's in another file. Each file has the same element definitions; they simple occupy a different area on the disk. In this case you could name this year's file CUSTOMER and define LASTYEAR to be a synonym for CUSTOMER. You could then identify LASTYEAR as being a different file number and even in a different file set than CUSTOMER. The result would be that if you used the file name CUSTOMER in a sentence, the report would concern this year's information. But if you left the sentence unchanged except for substituting the file name LASTYEAR for CUSTOMER, the information reported would concern last year's customers.

Here is another way to use synonyms. Suppose we change the previous example slightly and combine all of the information into one file with an element that has the value "H" for history (this record is from last year) and the value "C" for current (this record is from this year). You have named the file CUSTOMER and defined two synonyms for it: LASTYEAR and ALL. To the name CUSTOMER, you attach the PREDEFINED CONDITION if element = "C". To LASTYEAR, you attach the PREDEFINED CONDITION if element = "H". To ALL, you assign no predefined conditions. Then, any sentence containing the file name CUSTOMER would report on only this year's information. Any sentence utilizing the file name LASTYEAR would automatically refer only to last year's information. Any sentence containing the file name ALL, would contain information from both years.

The following sequence of events details how to use the DEFINE SYNONYMS utility.

1. Select "DEFINE SYNONYMS" from the JUST ASK utility menu.

2. The prompt "FILENAME:" will ask you to identify the file. Type the current file you wish to create a synonym for or the name of the file that contains the elements that are to be referred to by another name.

3. The terminal will respond: SYNONYM FOR FILE? (YES/NO). Answer YES and proceed to Step 4 if you are creating another name for this file. Answer NO and go to Step 6 if you wish to create synonym names for **elements** of this file.

4. Input the new name for this file in response to the prompt "SYNONYM NAME".

5. In succession, you will be asked if there is to be a password to guard admission to the file; the disk label set name which contains the data disk's label and drive number; the number of the Volume (1-99) in which the synonym file should be located; and whether you want to "RESERVE SEPARATE DISK SPACE FOR THIS SYNONYM FILE? (YES/NO)". Answer "NO" if you want the synonym to refer to the data in the original file; answer "YES" to initialize new disk space containing no data. If you answer "NO", proceed to Step 6; if you answer "YES", you must key in the "NUMBER OF RECORDS:" you anticipate needing before proceeding to Step 6.

6. You'll see the question SYNONYM FOR A KEPT ELEMENT? (YES/NO). If you are not creating a synonym for an element, answer NO, and you will be returned to Step 2. If you answer YES, you will proceed to Step 7.

7. In response to the prompt, "SYNONYM NAME", input the new synonym.

8. In response to the prompt, "ELEMENT NAME:", input the first element name that this new synonym refers to.

9. You may then change the heading that will appear in a report above the column containing this element's information when the synonym appears in the sentence. The prompt "COLUMN HEADER:" will appear along with the original heading that was specified. Accept it or edit it as you wish. You then will be returned to Step 6.

B.11 LIST KEPT ELEMENTS VIA ID

This utility prints or displays an unsorted list of all the elements that have been defined for a specific file or for all files. It does not, however, list synonyms. The elements are listed as they are encountered in the Access Record Definitions. This list can be cross-checked with the list produced from the "List Kept Elements" utility.

The list includes the name, column width, and element type for each element.

JUST ASK assigns an ID number to each file element. See Subsection B.8 for further details.

Procedure

1. Select "List Kept Elements Via ID #" from the JUST ASK utility menu.

2. The screen displays:

```
FILENAME: (RETURN for all)
```

   Enter the name of the desired file followed by RETURN to list a single file. Enter a RETURN to list all of the files.

3. The screen displays:

```
On Device:  (0-99)
```

   Enter the number of the device you want to use for the list.

4. The report prints or displays on the desired device. The system returns to the main JUST ASK menu.

B.12 DISK SPACE MANAGEMENT

The only Disk Space Management (DSM) utilities you should need to use are the first three selections on the DSM Utilities Menu:

```
                    DISK SPACE MANAGEMENT UTILITIES

          Please select the function you wish to perform
          1. List Volume Directory
          2. List Available Space
          3. Compact A Volume
          4. Define A Volume
          5. Define Managed Space
          6. Define Reserved Space
          7. Delete File Entry
          8. Return to JUST ASK
```

Selections 4, 5, 6, and 7 are used by your CADO distributor when installing WordBase Data on your system.

B.12.1 LIST VOLUME DIRECTORY

You may want to find out whether a file is defined within managed or reserved space, or which tracks your files occupy in a particular volume.

<u>Procedure</u>

Select "JUST ASK III" from the Main Menu and press RETURN. The JUST ASK III Menu is displayed.

Key in a "7" for "JUST ASK III Utilities" and press RETURN. The JUST ASK III Utilities Menu is displayed.

Key in a "12" to select "Disk Space Management" and press RETURN. The DSM Utilities Menu is displayed.

Key in a "1" for "List Volume Directory" and press RETURN. The message, "ON VOLUME: (1-99)", is displayed.

Key in the number of the volume (Disk Drive) you want to check and press RETURN. The message, "DISK LABEL SET NAME:", is displayed. Key in the label name and press RETURN. The message, "ON DEVICE: (00-99)", is displayed.

Key in the number of the device you want to use for the output and press RETURN. The volume directory is produced.

A sample volume directory follows:

01/18/83

FILE	TYPE	DRIVE	TRACK	SIZE (IN TRACKS)
SPACEDEF	0	2	1	75
WPTEXT	1	2	1	15
INVOICE	2	2	20	5
SALELEAD	2	2	30	5

END OF DIRECTORY

From left to right are: the file names ("SPACEDEF" is always the first file in the volume directory; it represents the entire volume); the file types--"SPACEDEF" is always Type "0", Type "1" files are in reserved space, and Type "2" files are in managed space; the Drive (volume) number; the number of the first track of each file; and the number of tracks occupied by each file.

In this sample, "WPTEXT" is a file defined in reserved space that occupies Tracks 1 through 14. "INVOICE", on the other hand, is defined in managed space, occupying Tracks 20 through 24.

Press RETURN to re-display the DSM Utility Menu.

B.12.2 LIST AVAILABLE SPACE

You may want to find out which tracks in a volume are not defined for either managed or reserved space.

Select "JUST ASK III" from the Main Menu and press RETURN. The JUST ASK III Menu is displayed.

Key in a "7" for "JUST ASK III Utilities" and press RETURN. The JUST ASK III Utilities Menu is displayed.

Key in a "12" to select "Disk Space Management" and press RETURN. THe DSM Utilities menu is displayed.

Key in a "2" to select "List Available Space" and press RETURN.

The message, "ON VOLUME (1-99)", is displayed. Key in the number of the volume (Drive) you want to check and press RETURN.

The message, "DISK LABEL SET NAME:", is displayed. Key in the label name and press RETURN.

The message, "ON DEVICE: (00-99)", is displayed. Key in the number of the device you want to use for output and press RETURN.

Following is a sample Available Space Directory:

```
  01/19/82
DRIVE        TRACK        SIZE (IN TRACKS)
  1            1            15
  2           68             8

ENDING DRIVE NUMBER: 2
ENDING TRACK NUMBER: 76
```

The screen clears and the DSM Utlities Menu is displayed. (Press RETURN again if using the terminal screen for output.)

B.12.3 COMPACT A VOLUME

This utility closes up available tracks between files in order to make larger areas of space available for new files. Compacting a volume does not move any reserved space.

Select "JUST ASK III" from the Main Menu and press RETURN. The JUST ASK III Menu is displayed.

Key in a "7' for "JUST ASK III Utilities" and press return. The JUST ASK III Utilities Menu is displayed.

Key in a "12" to select "Disk Space Management" and press RETURN. The DSM Utilities Menu is displayed.

Key in a "3" to select "Compact A Volume" and press RETURN.

The message "ON VOLUME: (1-99)" is displayed. Key in the volume (Drive) number and press RETURN.

The message, "DISK LABEL SET NAME:", is displayed. Key in the label name and press RETURN.

The screen is cleared and the DSM Utilities Menu displayed. You can then use the "List Volume Directory" Utility to see a directory of the re-organized volume.

APPENDIX C PROGRAMMERS' NOTES

Two interfaces are available to link JUST ASK III and standard CADOL programs. One interface allows a CADOL program to call JUST ASK to produce a report, make an inquiry, or enter data, the other, which is available with the IMPOSE CONDITION feature, allows the JUST ASK data entry function to execute a CADOL subroutine.

Two additional programming options include overriding the automatic file set and file assignments and the resizing of a sort file.

C.1 CALLING JUST ASK FROM A CADOL PROGRAM

A user-callable subroutine (commonly called a "negative GOSUB") is available so that a CADOL program can call JUST ASK to produce a report, make an inquiry, or enter data.

C.1.1 PRODUCE A REPORT

Before calling the subroutine, the JUST ASK sentence which defines the desired report should be constructed in the Y buffer.

The calling sequence is as follows:

CADOL Statement	Comments
LET N23 = device number (0-9)	Specifies the JUST ASK device number to be used for output.
LET Y(1) = 108	
LET Y(A) = first part of JUST ASK sentence	
LET Y(A) = next part of JUST ASK sentence	
LET Y(A) = final part of JUST ASK sentence (ending with two terminated periods)	
GOSUB -65	Calls the subroutine.

The JUST ASK sentence may consist of only one terminated string or of several terminated strings which are loaded separately into the Y buffer. Some of the strings may even be null. JUST ASK detects the end of the sentence when it encounters a string containing only a terminated period.

If the report is produced successfully, the subroutine returns to the calling program with N25 = 0. In case of any error, the subroutine returns immediately with N25 ≠ 0.

C.1.2 DATA ENTRY

Before calling the subroutine, the name of the form that is to be edited must be placed in the Y buffer.

The calling sequence is as follows:

LET Y(1) =4

LET Y(A) = the name of the form.

GOSUB -65

C.1.3 MAKE AN INQUIRY

Before calling the subroutine, the name of the form that is to be edited must be placed in the Y buffer.

The calling sequence is as follows:

LET Y(1) =1

LET Y(A) = the name of the form.

GOSUB -65

C.2 CALLING A CADOL SUBROUTINE FROM JUST ASK DATA ENTRY

Within the JUST ASK form layout, the user is able to impose a data entry rule that instructs JUST ASK to do a GOSUB to a specified library and program. When this program executes it may use the following resources:

Numeric Registers	N through N18 and N24
Alpha Registers	A, A1, A2, B, B1, B2, C, C1, and C2
Flags	F through F8
Buffers	R, W, and Z
Partial Buffers	Y first 60 bytes

The current data entry record is provided to the program in the X buffer. The key and record number of the record are not available. The library number of the JUST ASK library is provided to the program in the N18 register. LIB must be restored to this value before return may be made to JUST ASK.

Upon return to JUST ASK, the program can direct one or two events to occur.

If the A register does not contain a null string, JUST ASK will display the string on the second line of the display. Thus, the program may communicate with the end user.

If the N24 register is not equal to zero, JUST ASK will redisplay the data entry form. Thus, the program may use the CRT, keyboard, and any printing device and have JUST ASK restore the display format to its calling configuration upon return.

C.3 OVERRIDING AUTOMATIC FILE SET AND FILE ASSIGNMENTS

It is possible to override the automatic file number assignment and to name the file set, the file number and the sort file number. This is accomplished by entering "LODAC" in response to "What is the name of the file that contains the data?" Following the entry of "LODAC" the prompt will be redisplayed and the correct name may be entered. The following prompts are displayed:

```
TO WHICH SET DOES THIS FILE BELONG?
WHICH FILE IS THIS IN THE SET? (1 - 9)
WHICH FILE IS TO BE USED FOR SORTING? (1 - 9)
PASSWORD
DISK LABEL SET NAME:
```

The form will be redisplayed, then continue defining the remaining elements.

<u>NOTE</u>: If you answer "YES" to the "Reserve space for this file?" prompt, tracks will be allocated and the file entered in the directory as a managed file. Answering "NO" will return you to "Data Entry Form Name:". No tracks will be allocated. The file utilities must be used to assign the tracks for the file.

C.4 JA III SORT FILES

When a new file is created with JA III and managed by the Disk Space Manager, it will always have File 9 of its file set for the sort file. To change the size of the sort file, you use "Layout a Data Entry Form", and enter "SORT`" for the name of the form. Immediately KEEP the form. Answer the following prompts, being sure to respond "YES" to "Do you want to reserve space for this file?"

```
DATA ENTRY FORM NAME
YOUR NAME:
DO YOU WANT TO RESERVE SPACE FOR THIS FILE?
VOLUME NUMBER:
DISK LABEL SET NAME:
NUMBER OF RECORDS:
```

The number you entered for the "Number of Records" prompt will determine the size of the sort file. Generally, one track will be allocated for every 100 records entered.

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